TAHOE REGIONAL PLANNING AGENCY
ADVISORY PLANNING COMMISSION
NOTICE OF MEETING

NOTICE IS HEREBY GIVEN that the Advisory Planning Commission of the Tahoe Regional Planning Agency will conduct its regular meeting at 9:30 a.m. on Wednesday, May 14, 2008 at the TRPA Offices, located at 128 Market Street, Stateline, NV. The agenda for the meeting is attached hereto and made a part of this notice.

May 7, 2008

John Singlaub
Executive Director
AGENDA

I. CALL TO ORDER AND DETERMINATION OF QUORUM

II. APPROVAL OF AGENDA

III. PUBLIC INTEREST COMMENTS

Any member of the public wishing to address the Advisory Planning Commission on any item not listed on the agenda may do so at this time. Public comment on Public Hearing items will be taken at the time those agenda items are heard.

NOTE: THE ADVISORY PLANNING COMMISSION IS PROHIBITED BY LAW FROM TAKING IMMEDIATE ACTION ON, OR DISCUSSING ISSUES RAISED BY THE PUBLIC THAT ARE NOT LISTED ON THIS AGENDA.

IV. DISPOSITION OF MINUTES

V. ADMINISTRATIVE MATTER

A. Status Report, Discussion and Possible Recommendation on Governing Board and Advisory Planning Commission Roles, Communication and Membership. Page 1 - 4

VI. PLANNING MATTER


VII. PUBLIC HEARING

A. Recommend Amendment to Chapter 79 Fish Resources to Prohibit the Introduction of Aquatic Invasive Species into the Waters of the Lake Tahoe Region; to Require that All Watercraft Being Launched into the Waters of the Tahoe Region be Subject to Inspection to Prevent the Introduction of Aquatic Invasive Species; to add related Amendments to Chapter 2 Definitions; and related Amendments to Chapter 2 Definitions. Page 49 - 58

VIII. REPORTS

A. Executive Director

B. Legal Counsel
C. APC Members

IX. ADJOURNMENT
I. CALL TO ORDER AND DETERMINATION OF QUORUM

Members Present: Mr. Breuch, Ms. Jamin, Mr. Jepsen, Ms. Kemper, Mr. Lawrence, Mr. LaFevre, Mr. Maurer, Mr. McIntlyre, Mr. Poppoff, Ms. Schmidt, Mr. Tolhurst, Mr. Zuckerman

Mr. Harris arrived at 9:46
Ms. Krause arrived at 9:41
Mr. Upton arrived at 9:46
Mr. Riley arrived at 10:45

Members Absent: Mr. Plemel, Ms. Sertic

II. APPROVAL OF AGENDA

Ms. Jamin moved to approve the agenda.
Mr. Maurer seconded the motion
Motion passed unanimously

III. PUBLIC INTEREST COMMENTS

No Public Comments.

IV. DISPOSITION OF MINUTES

The following corrections were made to the minutes:
Spelling corrections on page 1, 3, and 5
Mr. McIntyre requested clarification under Public Hearing agenda item A regarding Placer County representatives talking with each of the CEP project proponents regarding the affordable housing component required for each project.

Mr. Jepson moved to approve the minutes as amended.
Motion carried.
Mr. Breuch, Ms. Kemper, Ms. Krause, Ms. Kemper abstained.

V. PLANNING MATTERS

A. Tahoe City Marina Expansion Project Review for Consistency with the Tahoe City Master Plan Environmental Impact Statement (EIS), Phase I Marina Expansion Master Plan, 642 North Lake Boulevard, Placer County, California, Assessors Parcel Number (APN) 094-090-08, TRPA File Number 20061481
Staff member Jason Ramos presented the Tahoe Marina Expansion project.

Jim Phelan, applicant, presented some of the highlights of the project and the collaboration with the community, the County and TRPA.

Member Discussion:

APC members inquired about parking issues, including the potential encroachment on the bike trail, a waterborne component and the parking needs associated with waterborne transit. Members posed questions on the proposed public education needs, boat wash requirements, dredging issues, bilge water treatment and the use of treated water for the boat wash, removal of the old train tracks, water quality issues, boat sticker program, storm water management plan, scenic design plan. APC wanted to know how the proposed project compares to the shorezone ordinance and will the proposed project be consistent with the anticipated shorezone ordinance.

Staff member Jason Ramos explained of the proposed parking lot configuration. Placer County has withdrawn the application for a planned parking garage, which is no longer part of the Marina Expansion Project; the proposed surface parking lot will not provide the capacity for waterborne transit.

Mr. Phelan answered questions about public education, boat launch plans and boat wash requirements, dredging needs, fish habitat accommodations, and the treatment of bilge water using a treatment system designed specifically for bilge water treatment, using the treated water for the boat wash facility. He outlined the ideas for the boat inspection and sticker program.

Staff member Jason Ramos provided additional information on the mitigation measures for the boat wash and the historical significance determination for the rails once used for boat launching. Storm water management and scenic design plan have been analyzed in the BMP retrofit permit and is not a part of this permit. Staff summarized the specifics of the mitigation measures concerning water quality, fish habitat, and traffic.

APC members were concerned with the parking structure no longer part of the mitigation measures. They asked how the findings were made in the staff summary. There was a concern about bike racks or bike lock accommodations for those utilizing the bike trail.

Staff member Jason Ramos informed the APC that the Marina Master Plan EIS did not require the parking structure for mitigation so parking mitigation is being addressed through modifications to the surface-parking plan.

The applicant pointed out the two proposed locations for bike racks and provided further clarification on the impact of Placer County not building the parking garage.
Public Comment:

Ellie Waller, Tahoe Vista resident, asked if the new buoy configuration is in line with the new shorezone ordinance? Will it be TRPA or the marina notifying the boat owners of new fees?

Staff member Jason Ramos informed Ms. Waller that the buoy configuration is in line with the anticipated shorezone ordinance.

Mr. Phelan stated he would be informing the public of any new fees through a newsletter and other forms.

Peter Eichar, California Tahoe Conservancy, commented on the bike trail tie-in and the Conservancy’s involvement.

Mr. Harris moved to recommend approval to the Governing Board. Motion carried unanimously.

VI. PUBLIC HEARINGS


Staff member Tim Hagan provided history of the Individual Parcel Evaluation System (IPES) and the Bailey System citing the TRPA Code of Ordinances sections and findings. The vacant lot equation as it relates to Placer County and the information contained in the staff summary was explained in detail.

Member Discussion:

APC members inquired about the zoning requirements relating to current vacant lots.

Staff member Tim Hagan explained the reasons why the Placer County IPES line has not gone down to zero as in all other jurisdictions. Staff also summarized efforts made to remedy the issue, noting discussions with the California Attorney General’s Office. Staff further explained that collaborative discussions among Placer County, TRPA, and Attorney General representatives were unsuccessful in identifying a solution that was feasible because data needed to analyze the issue was not available.

APC members pointed out some issues with the staff summary and attached resolution.

Staff member Tim Hagan noted the issues to the staff summary stating the resolution (Attachment B of the staff summary) would not be included in the Governing Board staff summary, since no action will be required for this agenda item and all other issues would be corrected before presentation to the Governing Board.

Public Comment:
No public comment.

No action item.

VII. REPORTS

A. Executive Director

Mr. Singlaub summarized the February Governing Board meeting approvals, the Governing Board retreat topics, decisions and direction to be explored including communication between the Governing Board and the APC.

B. Legal Counsel

No Report

C. APC Members

Ms. Jamin: A City of South Lake Tahoe workshop for the City of South Lake Tahoe General Plan Housing Element will be held March 31st at 5:00pm in the lobby of the South Tahoe Airport.

Mr. Lefevre: The US Forest Service anticipates a 2008 planning rule to come out of the Department of Agriculture in the next few weeks.

Mr. Poppoff: Communication between the APC and the Governing Board has been an issue in the past; we need a creative solution.

Ms. Kemper: There will be a Lahontan Board meeting tonight in Truckee, April 3rd will be the last of the Pathway Forum meetings at the North Tahoe Conference Center. Announcement of timber waiver, TRPA MOU and Forest Service MOU will be in the paper.

VIII. ADJOURNMENT

APC Chair Mr. Tolhurst adjourned the meeting at 11:56 a.m.

Respectfully submitted,

Patricia Sandoval
Clerk to the Advisory Planning Commission

The above meeting was taped in its entirety. Anyone wishing to listen to the tapes of the above mentioned meeting may call for an appointment at (775) 589-5277. In addition, written documents submitted at the meeting are available for review at the TRPA Office, 128 Market Street, Stateline, Nevada.
MEMORANDUM

To: Advisory Planning commission (APC)

From: TRPA Staff

Date: May 7, 2008

Subject: Status Report on Governing Board and Advisory Planning Commission (APC) Roles, Communications and Membership Discussions

Requested Action: This is a status report only. No action is being requested at this time.

Background:

As a result of the Governing Board retreat on the Agency’s Strategic Plan update priorities update held in February 2008, the Board directed staff to meet with several Governing Board and APC members to discuss and make a recommendation to the Governing Board on each of the following issues:

1. How can the role of the APC be strengthened in providing technical recommendations to the Governing Board?

2. How can communications be improved between the Governing Board and the APC?

3. The Bi-state Fire Commission has recommended that TRPA implement the following suggestions for advising the Governing Board and/or APC on wildfire and forest health/restoration issues:

   a. Governing Board to appoint 4 new members to the APC consisting of an experienced fire professional and a forest health/restoration expert from each state;

   b. Governing Board to invite qualified fire professional and forest health/restoration experts to serve as advisors to the Governing Board as ex-officio, non-voting members of the Governing Board; or/and

   c. Governing Board to expand the membership of the Catastrophic Wildfire Prevention Committee to include representation by experienced fire professionals and forest health/restoration experts.

AGENDA ITEM V.A.
4. The Chairman of the Washoe Tribe has indicated an interest in appointing a Washoe tribal representative to the APC.

Group Discussion and Recommendations:

The group held their first meeting on April 4, 2008. The members of the APC that participated in the discussion included, Chairman Alan Tolhurst, Lauri Kemper, and Jennifer Merchant. The members of the Governing Board that participated included, Chair Mara Bresnick, Coe Swobe, Shelly Aldean and Nancy McDermid. No final decisions or recommendations were made at this initial meeting. Once the group is ready to make a final recommendation on these issues to the Governing Board, the recommendations will be placed on the Governing Board agenda for action.

Issue #1 Discussion:

The group discussed several options to strengthen the APC’s role, including delegating the review and action of certain types of projects that the Governing Board currently reviews and acts on, thus increasing the responsibility and authority of the APC. Any action by the APC on projects would be appealable to the Board. Staff was directed to review this delegation of duties to the APC for consistency with the Compact and to report back at the next meeting. If determined not to be consistent with the Compact, an alternative would be to assign these projects to the APC for review and recommendation to the Board, but not allow final action by the APC.

Issue #2 Discussion:

The group discussed several options to improve the communications between the Governing Board and the APC regarding the APC’s discussions and recommendations to the Board on those matters that they review. To improve these communications, initially, the group agreed to have an APC representative most familiar with the agenda item attend the Governing Board meeting to be available to report out on the APC discussion and recommendation. In addition, staff would describe the APC recommendation and discussions on each item in the “APC Recommendation” section of the Governing Board staff summaries.

Issue #3 Discussion:

The group discussed various options on meeting the Fire Commission’s three recommendations. In order to meet the intent of the recommendations, be as efficient as possible with the time commitment that would be required of the new appointments, and maintain consistency with the Compact relating to Board membership, the group agreed on the following: Add 2 new fire professional appointees, one from each state, to the APC and have the current USFS member on the APC to serve as the forest health/restoration expert. In addition, these three appointees would also serve as advisors to the Governing Board and the Board’s Catastrophic Wildfire Prevention Committee.
Issue #4 Discussion:

The group discussed having a member of the Washoe Tribe appointed as a member of the APC. Although there was no opposition to supporting such an appointment, the group thought it would be best for the Chair of the APC and TRPA staff to arrange a meeting with the Tribe Chair to better understand their specific needs, i.e., would their needs be satisfied serving as an advisor to the APC, or would they prefer to serve as an actual member?

If you have any questions, please contact Nicole Rinke, Assistant General Counsel at nrinke@trpa.org or at (775) 589-5286.
MEMORANDUM

Date: May 1, 2008

To: TRPA APC

From: TRPA Staff


Requested Action: Staff is not requesting a formal action from the APC on this item.

Staff is proposing to continue previous discussions on emerging policy issues relating to the Regional Plan Update. The workshop will focus on a discussion of the following items:

2. Presentation and Discussion on Environmental Performance Zoning and Relationship to the Regional Plan Update
3. Presentation and Discussion on the Transect Zoning System.

Staff Recommendation: Staff recommends that the APC provide comments to the Executive Director on the proposed policy direction proposed in the Regional Plan Update.

Discussion: The Tahoe Regional Planning Agency (TRPA) is preparing an update to the TRPA Regional Plan. It has been 20 years since the adoption of the first comprehensive TRPA Regional Plan. Therefore, TRPA is proposing changes to the current Regional Plan where changes are deemed necessary. The Regional Plan update package includes the Thresholds, Goals and Policies, Code of Ordinances, Plan Area Statements, Community and Master Plans, the Environmental Improvement Program and other related documents.

An objective of the Threshold and Regional Plan update is to make focused improvements to the existing Regional Plan Package to achieve environmental net gains and accelerate attainment of Thresholds. The objective is being informed by recommendations of the 2006 Threshold Evaluation, the Pathway Planning Process, and the Pathway Place-Based Planning Workshops.

Through the collaborative planning process staff has focused their efforts on identifying emerging policy issues that are needed in the updated plan to achieve our net environmental gain and accelerate threshold attainment. Staff has categorized the policy issues into five categories for discussion purposes with the APC. The categories are:
1. Transportation, Air Quality, and Noise,
2. Land Use, Smart Growth, Housing, and Climate Change
3. Allocation and Commodities
4. TMDL, Coverage and BMPs
5. Implementation, EIP, and Regional Revenue

Staff has prepared and presented to the Board white papers on each topic area that will address existing policies; propose policies, rationale for change, relationship to existing thresholds, and implementation strategies and implementation hurdles. Staff will continue their presentation of the white papers and emerging policy issues at this workshop and is interested in receiving input and direction on the proposed policy amendments to the Regional Plan.

If you have any questions regarding this matter please contact John Hitchcock at jhitchcock@trpa.org or (775) 589-5220.

Please see attached discussion papers.
A. ISSUES FOR GOVERNING BOARD DISCUSSION

Emissions inventory data for the Tahoe Region reveals that transportation policies and approaches are inextricably linked to air quality within the Tahoe Region. Transportation related policies have the greatest potential for bringing the Region into attainment with air quality as well as noise thresholds, which are out of attainment may in some instances be trending downward (i.e., precursor pollutants: carbon monoxide, hydrocarbons, nitrogen oxides, and particulate matter; Community Noise Equivalent Level has been increasing) since the 2001 Threshold Evaluation. Other than transportation policy changes, only a few other measures are considered feasible at this time that could have a material beneficial effect on air quality and noise threshold attainment — specifically, mitigation fund improvements, stronger regulatory limits on wood burning stoves used for heating in the Tahoe Basin (Basin), and implementation of roadway BMPs and sweeping practices to improve particulate matter levels.

While there are many issues to consider, we have identified a few important topics for the TRPA’s Governing Board’s (Board) discussion:

1. **Uniform Standards vs. Uniform Programs:**
   Nevada Board members do not now support adoption of California’s more stringent health-based air quality standards Basin-wide. Nonetheless, a discussion is needed in which we thoroughly examine the implications to the Basin’s air quality and noise programs of applying disparate standards to a single air basin.

   **Mass Transit Based on Emissions Benefits:**
   Transit programs are a necessary tool to achieve threshold standards and Compact requirements. At the same time, transit vehicles not powered by the cleanest-burning fuels can produce harmful emissions. For this reason, staff
recommends aggressively pursuing, wherever possible, the cleanest burning mass transit vehicle replacements which provide air quality emissions benefits and increasing ridership of mass transit vehicles. Staff is also proposing that projects close to transportation corridors and in areas that could benefit from non-motorized travel incorporate pedestrian and bike friendly amenities as a condition of a TRPA permit.

2. **Air Quality Mitigation Fee effectiveness:**
   Staff recommends changing the air quality mitigation program to more directly link the mitigation fees to air quality improvements rather than traffic congestion improvements.

3. **Noise mitigation along roadway corridors:**
   Many of the Basin’s main roadways are out of attainment with TRPA’s noise threshold. Staff recommends pursuing the necessary efforts to initiate the use of low-noise pavement on the Basin’s highways.

4. **Street Sweeping Improvements:**
   Dust and fine particulates are stirred up into the atmosphere by vehicle traffic. Staff recommends requiring improved levels of street sweeping on the Basin’s highways and roadways, including the use of advanced street sweepers (vacuums) and specific implementation schedules.

5. **Wood Burning Stoves:**
   To address our wood smoke and particulate matter threshold attainment, staff recommends placing greater controls on wood burning stoves as a heating source within the Basin.

**B. EXISTING CONDITIONS**

Until 2000, within the air quality threshold, there are eight separate indicators that were intended to address both human health and ecosystem health. The following is a list of indicators along with their attainment status since 1991:

(See Table, Next Page)
Table AQ-1
2006 TRPA Air Quality Indicator Attainment Status

<table>
<thead>
<tr>
<th>#</th>
<th>Threshold Name</th>
<th>1991 Attainment Status</th>
<th>1996 Attainment Status</th>
<th>2001 Attainment Status</th>
<th>2006 Attainment Status</th>
<th>5-Year Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Carbon Monoxide</td>
<td>Non-Attainment</td>
<td>Attainment</td>
<td>Attainment</td>
<td>Non-Attainment</td>
<td>Positive</td>
</tr>
<tr>
<td>2</td>
<td>Ozone</td>
<td>Non-Attainment</td>
<td>Non-Attainment</td>
<td>Non-Attainment</td>
<td>Non-Attainment</td>
<td>Negative¹</td>
</tr>
<tr>
<td>3</td>
<td>Particulate Matter</td>
<td>Non-Attainment</td>
<td>Non-Attainment</td>
<td>Attainment</td>
<td>Non-Attainment</td>
<td>Negative</td>
</tr>
<tr>
<td>4</td>
<td>Visibility</td>
<td>Attainment</td>
<td>Non-Attainment</td>
<td>Non-Attainment</td>
<td>Attainment</td>
<td>Positive</td>
</tr>
<tr>
<td>5</td>
<td>US 50 Traffic Volume</td>
<td>Non-Attainment</td>
<td>Attainment</td>
<td>Unknown</td>
<td>Attainment</td>
<td>Positive</td>
</tr>
<tr>
<td>6</td>
<td>Wood Smoke</td>
<td>Non-Attainment</td>
<td>Non-Attainment</td>
<td>Unknown</td>
<td>Unknown</td>
<td>Unknown²</td>
</tr>
<tr>
<td>7</td>
<td>Vehicle Miles Traveled (VMT)</td>
<td>Non-Attainment</td>
<td>Non-Attainment</td>
<td>Non-Attainment</td>
<td>Non-Attainment</td>
<td>Positive</td>
</tr>
<tr>
<td>8</td>
<td>Atmospheric Nutrient Loading (lake)</td>
<td>Unknown</td>
<td>Unknown</td>
<td>Unknown</td>
<td>Unknown</td>
<td>Unknown²</td>
</tr>
</tbody>
</table>

*Information for 1991 to 2001 was from the 2001 Threshold Report

1. More stringent ozone standards became effective in May 2006 for CA and again in March 2008 by U.S. EPA. Ozone violations may therefore become more frequent under a more stringent standard unless improvement measures are taken.

2. Indicators AQ-6 and AQ-8 were listed as unknown because there is no available baseline data, which made developing an acceptable measurement infeasible.

Most of the Basin’s air quality challenges revolve around transportation-related activities. Although the air quality has dramatically improved in the Basin in the last 20 years, much of this improvement is due to ancillary benefits of air quality programs developed outside the Basin for state-wide or national implementation (e.g., cleaner vehicles and cleaner fuels). Further, the material gains in air quality that have been experienced over the last 20 years cannot be expected to continue unless there are new breakthroughs in fuel development and cleaner vehicle technology. At the same time, air quality standards are becoming more stringent at the state and federal level. It is expected that the Region will experience more non-attainment days in the future. Implementation of Region-specific air quality improvement programs is recommended to address these trends.
C. PROPOSED POLICY CHANGES AND SUMMARY OF REASONS:

1. Implement uniform programs Basin-wide: Whether or not air quality standards are uniform across state lines, Region-wide air quality programs are recommended.

   Summary of Reason(s): The proposed change to strengthen our Ozone and PM standards are based on human health factors. Air in the Basin knows no boundaries, and its effects are not limited to the area of discharge. The Compact requires TRPA to adopt California air quality standards on the California side of the Basin. Staff is recommending that even if TRPA chooses to adopt different air quality standards between Nevada and California, the Board support adoption of single Basin-wide programs that will streamline the process and achieve the standards.

2. Require non-motorized transportation options and improvements and reduce transportation projects that increase air pollution over automobile use: Staff is proposing to implement bicycle and pedestrian improvements as part of all major roadway improvement and redevelopment/large-scale projects. Additionally, a more aggressive effort to increase non-auto modes of travel is recommended, in particular transit, with a requirement to include wherever feasible an emissions benefit over vehicle use (clean fuel buses as compared to auto use).

   Summary of Reason(s): Emissions from transportation sources are the number one cause of health based air quality violations in the Basin contributing over 40 percent of the emissions associated with some threshold violations. The primary threshold indicators of concern include ozone, carbon monoxide, and particulate matter, as well as, water quality impairments associated with nutrient loading and particulate matter deposition.

3. Air Quality Mitigation Fee Improvements: Improve the effectiveness of the AQ mitigation fee by splitting off a fee specifically targeted to measures and activities that directly improve the AQ thresholds rather than transportation congestion alone.

   Summary of Reason(s): The current air quality mitigation program was developed as a congestion mitigation program in which funds are primarily collected and used for congestion relief and may not have actual or quantitative air quality improvements. Specifically, staff is recommending that we either adopt a secondary mitigation fund solely for air quality purposes or adjust the current fees to completely cover the air quality impacts and prioritize the mitigation projects according to their emission reductions. The proposed change to the air quality mitigation fee program will more closely tailor the fees collected to the impact. In addition, by ranking and prioritizing eligible projects and programs based on the most effective and efficient air quality improvements, we can make faster gains in this threshold area.
5. **Improve Community Noise Equivalent Level (CNEL) in Roadway Corridors:**
Add a new policy that would require the use of low-noise pavement as part of routine roadway repaving/improvement projects. Staff is also recommending that we adopt an additional mitigation fund solely for noise purposes to offset noise associated with projects that are unable to completely mitigate their impact on site. These fees will solely be used for noise reduction purposes.

**Summary of Reason(s):** The Basin has been in non-attainment with the Community Noise Equivalent Level (CNEL) standards and has been on a consistent downward trend. Noise associated with the Basin’s highways and roads is the single largest contributor to CNEL violations (e.g., vehicles or gathering of vehicles that make excessive noise - - motorcycles). Since noise levels within community plan areas cannot exceed the prescribed standards, highway noise may impact the success of certain projects in the Basin.

The single strategy that would result in the needed improvement to attain the CNEL threshold standard in non-attainment road corridors would be the use of new noise-reducing pavements and repairing deteriorated highways and roads. Over the next six to eight years, both Caltrans and NDOT have projects programmed to repave or dramatically improve the majority of roads in the Basin with improvements designed for a 10 to 40 year lifespan. If improvements to the noise level of these roads are not accomplished during this window, the Basin will have lost a reachable opportunity to make a substantial threshold related environmental improvement. Low noise pavement techniques have proven successful in other areas (including high altitude and snow and ice conditions) and staff is proposing to require the use of these techniques in the Basin.

6. **Street Sweeping Improvements (Reduce PM Emissions from Roadways):**
Add a policy that would require routine street sweeping utilizing advanced street sweepers/vacuums and implement increased maintenance and BMP installation along roadways.

**Summary of Reason(s):** Nearly 40 percent of the Basin’s particulate matter inventory is associated with roads and vehicle use, which reentrains road dust. Since the Basin has regressed into a non-attainment status, particulate matter reductions are an important focus area from a public health perspective. For this reason, federal and state governments recently implemented more stringent particulate matter standards. In addition, particulate matter is the single most important contributor to loss of lake clarity and improvements in AQ will also contribute to clarity goals. For these reasons, staff is proposing to implement a new particulate matter program requiring that all roads be BMP’d and vacuumed using the best available technologies and at regular intervals. This approach has proven successful in other areas and is currently practiced by both Caltrans and NDOT in other locations experiencing particulate matter problems.

7. **Reduce PM Emissions from Burning and Heating Practices:** Implement a policy change that would enhance TRPA’s current wood stove/fireplace program. This program would quickly introduce new emission standards based on the latest technologies, improve our time of sale provisions, and consider introducing prohibition on wood burning stoves in the future.
Summary of Reason(s): Fireplaces and wood stoves are the single largest cause of both carbon monoxide and particulate level violations in the Basin. Cost effective control strategies and technologies to improve this situation have existed for over 15 years and have been used by other jurisdictions, including some here in the Basin. Our wood burning stove program should be improved by incorporating the use of the cleanest burning stoves in the Basin at the earliest practicable time by updating time-of-sale requirements for properties, setting new emission standards, and possibly eliminating wood burning heaters in the Basin.

D. IMPLEMENTATION CHALLENGES

1. Transportation Based Air Pollution Reductions:
   Since previous transportation related projects and programs were designed primarily to reduce vehicle miles traveled and congestion, they may have had the unintended result of increasing pollution levels in the Basin. Since many transportation projects require several years (3 to 7) of planning and are already programmed, changes for air quality purposes will require additional work. Staff is recommending that future (and wherever possible, past) transportation planning documents be updated to require implementing the least air polluting source of transportation practices in the Basin.

2. Noise Mitigation Along Roadway Corridors:
   Staff is requesting the Board’s help in influencing the state and local entities (e.g. CalTrans and NDOT), who have thus far refused to utilize low-noise paving or other noise mitigation measures or techniques.

3. Street Sweeping Improvements:
   Street sweeping improvements to control major sources of particulate matter and fine particle sedimentation requires commitment from state and local jurisdictions (expenditure of funds to purchase the most efficient equipment and utilize them on an enhanced cycle), during these very budget constrained times. Staff is requesting Board support in developing the support for this measure among implementing jurisdictions.

4. Wood Burning Stoves:
   Wood burning stoves are the single largest contributor of particulate matter and the second largest contributor of carbon monoxide in the Basin. Both of these indicators are currently in non-attainment. Real estate interests are concerned that increased enforcement of stove retrofits at sale could impede the sale of homes.
A. ISSUES FOR GOVERNING BOARD DISCUSSION

Past land use patterns separated uses, making residents and visitors today overly dependent on automobile use for all travel. Conventional wisdom about zoning has shifted over 50 years, and planners now realize that mixed-use development in urban core areas, together with form-based policies and pedestrian-transit oriented design (PTOD) principles, provides substantial environmental benefits directly related to threshold attainment. Mixed-use development can directly benefit air quality and noise thresholds and foster the success of regional transit policies by reducing vehicle miles traveled, auto emissions, and creating critical mass to serve transit and non-motorized transportation options. Form-based design directly benefits the soils threshold by making higher density development and additional height locally available in return for significant reductions in urban area land coverage. Where coverage is removed, creation of “functional open space” can significantly reduce runoff and lake sedimentation. In addition, form-based design directly benefits scenic quality. Providing alternative forms of housing through mixed use and vertical subdivision allowances reduces the pressure to expand housing into undeveloped land and meets the socioeconomic goals of the Region.

While there are many issues to consider, we have identified a few important topics for the Governing Board’s (Board) discussion:

1. **Mixed-Use, Compact Redevelopment**: Modify land use policies requiring segregated land uses as necessary to allow for mixed-use centers in select Community Plan areas. The potential for increased height allowances and greater land use density in these urban centers would be allowed in return for significant environmental improvements such as substantially reduced coverage and area-wide storm water treatment.

2. **TRPA’s Role in Housing Choice and Diversity**: Limit TRPA’s role to that of support agency in affordable and moderate income housing creation programs leaving the primary implementation role to the local jurisdictions. Amend TRPA
housing policies and Code to support affordable and moderate income (“workforce”) housing only when it is supported by a local jurisdiction and its housing plan/element.

3. **Form-Based Design Standards**: Implement the form-based code as a tool in select Community Plan urban transect zones (i.e., in Community Plans) to improve the regional quality of design, scenic values, soil conservation, and air quality through more compact, pedestrian-oriented style of redevelopment.

4. **Climate Change and Reduction of Greenhouse Gas Emissions**: Adopt measures and strategies in the Plan to reduce the Region’s total GHG emissions load.

**B. EXISTING CONDITIONS**

Land uses, redevelopment patterns, and design form all have a relationship to TRPA’s water quality, soils, scenic quality, air quality, and noise thresholds. Overall, these thresholds are in non-attainment status. Significant improvements have occurred over the last 10 years as a result of special/redevelopment projects that include many of the concepts identified in this paper. The land use policy changes proposed in the Regional Plan Amendments are documented in the 2001 and 2006 threshold evaluations as effective remedies for the adverse environmental effects from past land use practices and can therefore be used to achieve gains in threshold attainment.

Past land use policies and practices that are targeted for improvement include:
- Too much land coverage exists in urban areas and is the prime source of fine sediments causing continuing loss of lake clarity.
- Urban areas and the existing built environment are not consistent with desired community character, and as they continue to deteriorate, degrade scenic quality.
- Basin population has been decreasing, making successful development of transit to reduce reliance on the auto much more difficult because of the lack of critical mass of year-round residents.
- Land use policies that segregate residential uses from the urban core make it more difficult to create a critical mass to support transit.
- Land use policies in some instances result in higher density development in low density neighborhoods.
- Land use policies that promote two-step subdivisions that do not promote transit, pedestrian activity, or walkability.
- Plan Area Statements lack standards such as form-based codes to direct the character of the built environment.

**C. PROPOSED POLICY CHANGES AND SUMMARY OF REASONS**

1. **Require net environmental gains from redevelopment**: Policies will be revised to use redevelopment (a mix of public and private sector partnership investment) to remedy the continuing environmental harms caused by development mistakes of the past. Redevelopment must be accompanied by environmental corrective measures that reduce coverage, improve stormwater infrastructure, add BMPs and advanced treatment of runoff, and other similar environmental gains directly tied to threshold attainment.

**Summary of Reason(s)**: Research over the last 20 years has revealed that 70 percent of source inputs that are reducing lake clarity derive from fine sediment runoff from urbanized centers comprising only 1.4 percent of the regional land area. Continuing
environmental degradation is being caused by the development mistakes of the past, which must be corrected in order to see threshold regression stop and the negative threshold trends reverse. EIP is expected to provide funds to correct past environmental mistakes, but with economic and budget uncertainty, EIP is proposed to be bolstered with changes in redevelopment requirements to provide environmental gains.

2. Refine zoning concepts and modify land use patterns to allow for mixed-use, compact design and form-based code standards: Policies will be revised to implement form-based code standards including environmental improvement standards, compact design, and PTOD principles in specified transect zoning districts. These policy changes can result in improved infill and redevelopment projects that move the Region toward threshold attainment by resulting in corrective measures to reduce coverage, create “functional open space,” and reduce the dependency on the automobile in urban centers. (See Discussion Paper #4 for discussion of “Functional Open Space”).

Summary of Reason(s): Mixed-use, compact design in urban centers is proposed because it a) creates critical mass for successful development and implementation of transit systems, b) is a land use system that provides a viable option for residents and visitors to reduce reliance on the automobile, c) is an effective means to reduce excess coverage in the urban core, freeing areas for the creation of “functional open space” to reduce storm water runoff and lake sedimentation that is causing continued loss of lake clarity. Mixed-use policies that encourage combining retail, tourist accommodation, office, public, and residential uses within walking distance of one another can directly benefit air quality, noise, and soils thresholds. Compact communities with a mix of land uses and a highly connected street network are associated with fewer vehicle miles and trips and more bicycling and walking per capita. They have also been linked to lower per capita levels of other emissions (such as ozone), and, more recently, to lower per capita carbon dioxide levels (See discussion below of Climate Change). Compact development is created by allowing higher density and additional height that reduces the amount of land coverage allowing urban spaces to be dedicated to “functional open space” to improve infiltration, reduce runoff, and improve water quality. At the neighborhood level, places that support walking and bicycling will help to reduce the need for cars for shorter trips that are unrelated to work: errands, trips to school, or recreational trips.

Place-Based Planning resulted in defining the types of community residents around the Region desired. Consistent with these community visions, combining uses can create active, vital neighborhoods. A mixture of uses can be either in a vertical arrangement (mixed in one building) or horizontal (with a combination of uses in close proximity). These types of projects function as local activity centers, contributing to a sense of community, where people tend to walk or bike to destinations and interact more with each other. Mixed land uses can occur at many scales. Examples include: a housing project located near an employment center, a small shopping center located within a residential neighborhood, and a building with ground floor retail and apartments or condominiums on the upper floor(s). Creating environments that are more compactly built and use space in an efficient but aesthetically pleasing manner can encourage more walking, biking, and public transit use, and shorten auto trips. All of these results are consistent with TRPA’s threshold standards and transportation policies.

Form-based coding is a tool. It is being proposed as the means to integrate a) the standards needed to implement the mixed use approach to planning in urban centers with b) the environmental improvement standards needed in the highest priority urban
zones where the greatest benefits can be gained from measures to address water quality or other threshold related improvements. The Form Based Code will be used in its traditional sense: to specify mixed use development standards such as setbacks, sidewalks, and landscaping, as well as the aesthetics of building design and the design of the public right-of-way (e.g., the sidewalks, connected streets and paths, bike lanes, the width of streets). All of these factors can make living in a compact urban center more attractive and facilitate the ease of walking and biking to work or neighborhood services, all of which contribute to threshold attainment as well as a desirable sense of community and place. The Form Based Code application will be enhanced for the Tahoe Region: to specify, for select urban environmental performance zones (i.e., specific priority areas for reinvestment and capital improvements within Community Plans) the necessary environmental improvements that must be implemented as part of redevelopment to achieve measurable environmental gains. In this way, the Form based Code can focus application of EIP funds, establish priorities to meet the objectives of the Regional Plan Update, and be relied upon by local jurisdictions as the regulatory implementation tool needed to demonstrate compliance with the TMDL when it is finalized.

3. **Give lead role in creation of affordable and moderate-income housing to local jurisdictions:** TRPA will give over lead role in creation of affordable and moderate income housing to local jurisdictions, and provide incentives and remove impediments worked out in coordination with local jurisdictions to promote affordable and moderate income housing.

**Summary of Reason(s):** Providing a variety of housing choices creates opportunities for the variety of people who need them: families, singles, seniors, and people with special needs. This issue is of special concern for the people with very low-, low-, and moderate-income, often our teachers, other public employees and professionals, as well as retail employees, service workers and other people for whom finding housing close to work is challenging. By providing a diversity of housing options, more people have a choice.

The limited and deteriorating stock of affordable and moderate income housing in the Region is not a problem unique to Tahoe. Fostering affordable housing generally requires financing incentives and specially focused organizations (e.g., land trusts, housing authorities) that TRPA has no authority to create or require on its own. TRPA has been unsuccessful to date in creating, and without local support cannot create, affordable housing. Furthermore, TRPA lacks adequate resources to make creating housing diversity a priority. It is likely more effective to give responsibility to local jurisdictions and have TRPA support local housing plans and projects when they are proposed.

4. **Climate Change and Reduction of Regional GHG Emissions:** Undertake Region wide GHG Emissions Inventory and include policies in each Regional Plan element to reduce the regional GHG load over 20 years.

**Summary of Reason(s):** Scientific studies specific to Tahoe’s ecosystems are showing that climate change is having a material effect on the biology and environment of the Lake. Being proactive about establishing and implementing measures to control adverse ecosystem changes as well as to control the increase in climatic change should be part of TRPA’s role to protect the Lake’s environment and values. Energy issues and climate change are consuming worldwide attention. The manner in which our community’s site
development and conserve land has an impact on energy demand, the types of energy resources available for future use, and on climate change mitigation and adaptation. Land use and transportation policies are being proposed that encourage efficient energy use, diversification of energy supply, and emissions reductions by influencing the built and natural environments — including both where and how we build, and where and how we preserve open spaces.

D. IMPEDIMENTS TO IMPLEMENTATION
1. Methods of measuring environmental gains associated with environmental improvement projects are not well developed.
2. There is resistance to increased density and height because of fears of negative environmental impacts and change.
3. TRPA staying its hand in implementation of housing policy may result in inconsistencies among local jurisdictions in meeting the needs of the Region for affordable and moderate income housing supply, which may exacerbate the loss of resident communities within the Region and accelerate the Region’s conversion to a tourist-based destination resort.
4. No formal or promulgated standards exist for an appropriate response to climate change effects or greenhouse gas emission reductions.
5. TRPA needs assistance from local and state jurisdictions to support creating well connected communities through the implementation of sidewalks, bike trails, and pedestrian paths.
MEMORANDUM

To: TRPA Governing Board
From: TRPA Staff
Date: March 24, 2008
Subject: Discussion Paper Number Three -- Allocations and Commodities -- Issues Relevant to Policy Changes Being Considered as Regional Plan Amendments

A. ISSUES FOR GOVERNING BOARD DISCUSSION

In the 1987 Regional Plan, allocations and development commodities (e.g., CFA, TAUs) are regulatory tools used to moderate the quantity and rate of development allowed in the Lake Tahoe Region. Combined with zoning regulations, commodities have been used to create an intended development pattern that would ensure the protection of the natural environment through moderated growth and timely mitigation of environmental impacts. While the past 20 years have seen moderated growth, a significant amount of redevelopment has not occurred as envisioned in the original Plan. As demonstrated by the Total Maximum Daily Loading (TMDL) modeling, the Region has suffered and continues to suffer more harm from previously existing development (“grandfathered” or pre-TRPA) than from new development, where mitigation and best management practices can be required at the onset.

The focus of the present land use plan update is not on controlling additional growth as it was 25 years ago, because the Region is approaching growth build-out. Today, the primary objective is to achieve redevelopment of existing urban areas in order to correct the persistent adverse effects of the environmental errors of the past. To achieve a development pattern that focuses on infill and environmental improvement of existing core areas, the development commodities proposed to be reloaded into the updated Regional Plan will not be used to increase growth. Instead, allocations and commodities will be awarded as incentives to landowners and developers to redevelop (i.e., relocate and remake) the urban built environment in a way that remediates the persistent adverse environmental effects of existing urban development. It should be noted that development commodities alone will not guarantee redevelopment and environmental benefit. This aspect of the Regional Plan Amendments is intended to coordinate with other Plan elements and programs to achieve the desired land-use development pattern over the next twenty years.
The key policy questions for the Board’s discussion, based on this discussion paper, are:

1. **Additional Commodities:** Staff proposes to use the additional development commodities as an incentive tool to be awarded to redevelopment that meets the updated land use patterns and required level of environmental improvements specified in the updated Plan.

2. **Distribution systems for Commercial Floor Area and Tourist Accommodation Units:** Staff proposes to shift the distribution of CFA from community plan-loading to a project or plan specific approach, similar to the Community Enhancement Program.

**B. EXISTING CONDITIONS**

The existing development pattern in the commercial core areas of the Basin exhibit characteristics of strip-development oriented toward private automobile travel. Total Maximum Daily Load (TMDL) watershed modeling has demonstrated that these historic development patterns contribute the largest amount of sediment loading to the Lake. In addition to soil function and water quality impacts, travel patterns caused by this type of development create significant emissions contributing to the non-attainment of air-quality thresholds and global climate change.

**Residential Allocations**

In 2002, the distribution system for residential allocations changed from a pre-determined quantity to a performance-based system. The present system provides incentives for local jurisdictions to implement permit compliance monitoring, Environmental Improvement Projects, Best Management Practices retrofits and Transportation Enhancement Projects. Based on the evaluation of nine criteria, local jurisdictions may be awarded or deducted allocations within set bounds, as described in Table 1.

**Table 1: Performance Based Residential Allocation Distribution System**

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Minimum Allocations Distributed</th>
<th>Base Allocations Distributed</th>
<th>Maximum Allocations Distributed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Douglas</td>
<td>9</td>
<td>13</td>
<td>21</td>
</tr>
<tr>
<td>Washoe</td>
<td>13</td>
<td>25</td>
<td>49</td>
</tr>
<tr>
<td>El Dorado</td>
<td>27</td>
<td>55</td>
<td>111</td>
</tr>
<tr>
<td>City of South Lake</td>
<td>11</td>
<td>23</td>
<td>47</td>
</tr>
<tr>
<td>Placer</td>
<td>18</td>
<td>34</td>
<td>66</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>78</strong></td>
<td><strong>150</strong></td>
<td><strong>284</strong></td>
</tr>
</tbody>
</table>

**Commercial Floor Area and Tourist Accommodation Units**

Based on parcel data, it is estimated that there are between 12 and 16 million square feet of existing commercial floor area (CFA) in the Tahoe Region today. Much of this building space was constructed prior to the 1987 Regional Plan, which distributed a total of 800,000 square feet of CFA. A large percentage of pre-existing development still remains today and typically includes over-coverage and lacks adequate Best Management Practices. While some redevelopment has occurred in the last 20 years, the urban commercial core areas remain a significant source of runoff and resulting pollutant loading to the Lake. Changes to the distribution of commercial floor area in the Regional Plan update are intended to be used as incentives for redevelopment that
meets the updated land-use and environmental standards of the Plan and serves to relocate past development out of sensitive zones.

**Transfer of development**
To facilitate and encourage the transfer of development from sensitive lands, the Regional Plan established a system by which existing development could be transferred from one site to another. While the objectives and benefits of the transfer system were straightforward, fewer transfers and thus fewer environmental benefits were achieved than expected.

**C. PROPOSED POLICY CHANGES AND SUMMARY OF REASONS**

1. **Provide additional development commodities:** Table 2 provides the proposed quantity and distribution for additional residential allocations, commercial floor area, tourist accommodation units and bonus residential units of use.

   **Summary of Reason(s):** In the Plan update, the proposed objective of CFA commodities is as an incentive that can be awarded in return for implementation of environmental restoration of commercial core areas. The original intent of creating CFA in the 1987 Plan was similar to that of residential allocations – a limit on the commodity was set to moderate the quantity and rate of development within the Region. As it is measured on a square foot basis, CFA also served to restrict the size of development that could occur. Today, the use of commercial floor area need not serve this purpose as the Region is nearly built out. Commercially zoned areas are built out. In other areas, other regulations relating to coverage, height and density will remain in place to continue to control the quantity of development. Using CFA as a regulation tool to control growth may now be redundant, but the CFA commodity can now be used more productively and to greater effect by converting its use to an incentive award for accomplishing long needed environmental improvements.

2. **Reconfigure distribution of commercial floor area to incentive based system:**
   The proposed system for distribution of commercial floor area (CFA) would have two components:

   a) **Continuation of the community enhancement program:** Additional rounds of commercial floor area and tourist accommodation units would be distributed to competing projects exceeding the program criteria for environmental and community enhancement.

   b) **Transfer matching program:** Additional commercial floor area would be provided to those development projects that transfer existing development from outside community plans and sensitive environmental zones. The proposed ratios for this program are provided in Table 2.

   **Summary of Reason(s):** Significant improvements to existing development have not been realized, and an improved system of achieving environmental improvements is needed.

The intent of the 1987 Plan was that its provisions would promote infill and redevelopment of existing urban areas. Significant improvements to existing development have not been realized in many of these areas. The higher costs associated with the need to meet environmental needs are often cited as the cause. The
proposed changes in the Plan Update would eliminate a step in the distribution system by assigning commercial floor area directly to proposed projects in return for environmental improvements. Simplifying the distribution process provides developers additional benefits in terms of the opportunity cost of time, and certainty regarding the availability of commercial floor area.

We also considered reducing and/or eliminating additional development commodities. However, a significant portion of the Tahoe economy is dependent on construction and development, and new development has less environmental impact because appropriate mitigation measures and best management practices are required from the onset. Rather, the stock of dated and deteriorating existing development typically includes over-coverage, lacks best management practices and energy efficient features, and it is these deficiencies that are the proposed focus of changes in the Plan Update, because they pose the greatest unaddressed adverse environmental effects to the Region. To redevelop these areas -- mostly in the commercial core zones -- we are proposing to use additional development commodities.

3. **Addition of Affordable/Moderate housing as a residential allocation performance criteria**: The proposed change would add the development and/or protection of affordable and moderate income housing to the list of criteria applied when evaluating local jurisdictions for an award of residential allocations.

**Summary of Reason(s): Additional market-rate projects should be linked to environmental improvements and affordable housing.** The current residential allocation system links additional development to environmental improvements, and evaluates local jurisdictions on criteria relating to permit compliance monitoring, implementation of environmental improvement projects, BMP retrofits and transportation enhancement projects. Adding criteria to the system is proposed so that local jurisdictions have added impetus to implement their fair-share of affordable housing and to link market rate projects to affordable/moderate rate development.

**D. IMPLEMENTATION IMPEDIMENTS**

1. **Environmental benefits of the Community Enhancement Program need to be required and measured.** The concept of requiring environmental gain in return for award of redevelopment commodities needs refinement, particularly a well-defined measuring system for “net benefit” of projects. To date, not all projects proposed in the first round of the CEP have proposed to achieve the desired environmental outcome. Additional work is necessary between TRPA and local jurisdictions to streamline the program process and define the expected outcomes.

2. **Redevelopment commodities alone are insufficient to achieve the needed redevelopment and environmental improvements in existing urban areas.** Given the various factors that influence the decision to develop/redevelop commercial property within the Basin, commodities are not likely to provide sufficient impetus alone for the private market to initiate redevelopment. Collaboration with local governments to provide financial incentives through subsidies, tax increment financing and business development programs will be necessary to create viable projects through-out the Lake Tahoe Region.
3. **Where transfer of development is most needed, it often does not occur because the costs and the risks are not adequately managed.** To date, little transfer of existing commercial development from sensitive to high capability land has occurred. The relatively low demand for commercial property development in Tahoe strains the cost-effectiveness and profitability of transferring existing development. The cost of purchase, de-construction, material removal, land-restoration (in the case of transfers from environmentally sensitive areas) and time is much higher than the market cost to obtain commercial floor area. To create a successful transfer program, government agencies should assist in the process by considering the feasibility of negotiating with targeted properties, purchasing development rights and land, and providing the restoration of purchased properties.

4. **Incentive-based programs for redevelopment are highly market dependent.** The commercial/retail sector of the Tahoe economy has been relatively flat over the past twenty to thirty years. Without significant demand for renewed or new facilities, it is difficult to depend on the market to provide the redevelopment of properties. Policies aimed at redevelopment of existing commercial areas need to be coordinated with local jurisdictions’ efforts to provide appropriate housing options for employees and attract and retain businesses.
### Table 2. Additional Growth Commodities

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Total Quantity for plan</th>
<th>Distribution Method</th>
<th>Distribution Period</th>
<th>Quantity per period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Allocations</td>
<td>4,000</td>
<td><em>Continuation of current system</em> Distributed to local jurisdictions based on performance evaluation system</td>
<td>Annual</td>
<td>Under the performance review system, a baseline of 150 allocations are set with a minimum of 78 and maximum of 284 being earned</td>
</tr>
<tr>
<td>Commercial Floor Area</td>
<td>400,000</td>
<td><em>Community Enhancement Program:</em> CFA will be awarded to projects that meet criteria of CEP program. This is a competitive program, which looks to achieve urban revitalization with substantial environmental benefits.</td>
<td>5 years</td>
<td>40,000 sqft. CFA. Allocation based on number of projects approved and quantity requested.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Transfer Program:</em> CFA will be awarded at a ratio of 2:1 for existing CFA transferred out of Sensitive Environmental Zones and 1:1 for CFA transferred from outside community plans.</td>
<td>Ongoing</td>
<td>Based on individual projects</td>
</tr>
<tr>
<td>Tourist Accommodation Units</td>
<td>200</td>
<td><em>Community Enhancement Program:</em> CFA will be awarded to projects that meet criteria of CEP program. This is a competitive program, which looks to achieve urban revitalization with substantial environmental benefits.</td>
<td>5 years</td>
<td>Based on approved projects request</td>
</tr>
</tbody>
</table>
TMDL SECTION

A. ISSUES FOR GOVERNING BOARD DISCUSSION: Lake Tahoe Total Maximum Daily Load (TMDL)

The Lake Tahoe clarity threshold and TMDL goals focus on the exceptional transparency and aesthetic qualities of Lake Tahoe, and the desire to restore the historic clarity recorded in the late 1960’s. The primary impacts to Lake Tahoe clarity are now known to be fine particulate, which scatters light (particles less than 20 micrometers in diameter), and phytoplankton (small free living algal cells that absorb light). The deep water clarity of Lake Tahoe, as measured by Secchi depth visibility from the surface, has continued to decline since 1968. The Lake Tahoe TMDL is a management plan to reach the Lake Tahoe clarity threshold standard of 100 feet. Under the TMDL, the tolerance or maximum loading allowance of Lake Tahoe is determined for fine sediment (particulate), nitrogen, and phosphorus loading from all sources. That total load tolerance is the level that the Clarity Model estimates will allow Lake Tahoe to attain the clarity or Secchi depth threshold standard. The difference between the baseline load budgets established under the TMDL loading to Lake Tahoe and the load tolerance will determine the target load reductions needed to attain the threshold and California standards for Secchi depth.

B. EXISTING POLICIES

As the designated Clean Water Act (Section 208) agency for the Lake Tahoe Region, TRPA has integrated the Water Quality Management Plan (208 Plan) for the Region into the current Regional Plan including the Goals and Policies and the Code of Ordinances. The water quality goals of the Regional Plan are to implement control measures and programs to attain and maintain water quality threshold standards; and federal, state, and local water quality standards as required by the TRPA Compact. The EPA certification of the 1982 Water Quality Management Plan and the Lahontan Regional Water Quality Control Board’s Basin Plan stated that such certified plans serve as
updates of the TMDL / waste load allocation process for the Basin and includes the authority to implement TMDLs to attain water quality standards.

C. PROPOSED CHANGES AND REASONS FOR CHANGE
The proposed TMDL-related Plan Amendments are not a change in approach but a refinement of the application of TRPA’s current water quality threshold management standards aimed at attaining thresholds. The refinements are more firmly based in the science of the TMDL and the needed load reductions supported by the TMDL Clarity Model. Target load reductions required to meet the Lake Tahoe clarity standard are proposed to be phased in over time with the clarity model projecting a recognizable change to an improving trend in 20 years (77 – 80 feet Secchi depth), and attainment of the Secchi depth standard in about 40 years (97 feet Secchi depth) based on the analysis of the recommended strategy.

The amendments being proposed will
1) Define control measures and implementation programs that focus on pollutant load reduction for fine sediment, nitrogen, and phosphorous in order to attain the clarity threshold over time.
2) Implement the recommended strategy for the TMDL and Lake Tahoe clarity threshold, with a focus on innovation for urban stormwater treatment and supporting pollutant load reductions.
3) Create a new TMDL implementation sub-element in the Regional Plan’s Goals and Policies

Summary of reason(s):
1. Changes are based on several years of scientific development efforts and public input. The changes proposed are part of the Federal Clean water Act mandate and basic to TMDLs across the United States for setting allowable discharges to reach water quality standards and basing control measures and implementation programs on meeting target load reductions.

2. The recommended strategy for the TMDL and Lake clarity is projected to attain the Secchi depth standard over time. The recommended strategy has been projected to result in a recognizable change to an improving trend in Lake Tahoe clarity over 20 years (77 – 80 feet Secchi depth). The Clarity model projects the attainment of the Secchi depth standard in about 40 years (97 feet Secchi depth) based on the analysis of the recommended strategy. One of the alternatives considered in the TMDL was continuing current best practices at today’s level of effort; this approach does not attain even the interim (77-80 feet Secchi depth) in 20 years. One could also surmise from the 2006 Threshold Evaluation for the Secchi depth threshold standard that current focus or level of effort in the Regional Plan (as predicted in the threshold policy) has not lead to attainment.

3. The proposed changes are strongly related to threshold attainment. (a) Water Quality Thresholds. The most direct relationship of the TMDL is with the Lake Tahoe clarity or Secchi depth (WQ-2) threshold, with interaction of nearshore or littoral turbidity as the watershed loading zone (WQ-1) and phytoplankton primary productivity (WQ-3). The load reduction targets are related to the management standards for the Lake Tahoe thresholds, as well as the tributary (WQ-4) and stormwater surface water and infiltration discharge thresholds (WQ-5 and 6).
(b) **Soil Conservation Thresholds.** There is a strong relationship with the Soil Conservation, Impervious Coverage and SEZ thresholds (SC-1 and 2). (SEE PART 2 OF THIS DISCUSSION PAPER ON LAND COVERAGE)

(c) **Air Quality Thresholds.** There is a strong relationship with the air quality human health Particulate Matter (AQ-3) and Atmospheric Nitrogen loading thresholds (AQ-8) for fine particulate and nitrogen impacts on Lake clarity.

(d) **Acceleration of Threshold attainment.** The TMDL, when final, will define total load reductions by source and pollutant needed for Lake Tahoe to achieve the clarity threshold. Enough work is now complete, however, to know the source loads so that actions put in place today could begin to accelerate the attainment of water quality thresholds noted above. The TMDL will also support the reduction of impervious coverage, increase in SEZ restoration, and reduction in particulate matter. While the recommended strategy for achieving the TMDL focuses on fine particulate and does not strongly support the reduction of atmospheric nitrogen loading, other aspects of the Regional Plan update will continue to encourage reduction of emissions (VMT targets for reduction of nitrogen emissions, Smart Growth and Climate Change).

### D. IMPEDIMENTS TO IMPLEMENTATION

1. **The final TMDL is not scheduled to be approved until at least 2009.** Later additional amendments to the Regional Plan may be needed for complete implementation of the TMDL once load reductions are finalized. Incorporating what we know now from the TMDL provides a head start rather than waiting years to begin implementing remedial strategies needed to address known problems of particulates and other pollutants.

2. **Relying on the existing level of regulation and incentives provided through other Regional Plan elements and programs will be insufficient to achieve the TMDL interim “Clarity Challenge” target (77-80 feet Secchi depth in 20 years); therefore changes are needed to the Regional Plan.** Other proposed changes and enhancements to the Regional Plan are needed to meet the water quality and related threshold standards. Therefore, the Plan Update must be thought of as a whole because many other proposals for update have a necessary synergistic effect on achievement of other threshold standards. For example:
   (a) Mixed-use redevelopment incentives (e.g. the Community Enhancement Program) to reduce coverage particularly in sensitive areas like SEZs, and implementation of projects through the EIP for stream channel restoration and urban stormwater load reduction in particular.
   (b) Forest management practices (such as fuel reduction), and strengthened BMPs and watershed restoration.
   (c) Reduction of atmospheric dust deposition and urban runoff through primary and secondary road operation and maintenance, and forest management for unpaved roads.
   (d) Reduction of impervious cover and increase in functional open space (see Section below on Land Coverage) which can both reduce runoff treatment needs and provide some vegetation treatment of runoff.
   (e) Added policy on roadway abrasive alternatives and particulate matter efficient vacuum sweeping to reduce fine particulate resuspension and roadway runoff (See Discussion Paper #1: Air Quality).
3. **Commitment by local jurisdictions to Stormwater Management Plans** would be especially beneficial in reducing pollutant loads in over-covered subwatersheds and in the evaluation of area-wide treatments to reduce pollutant loading to Lake Tahoe. Such plans should also evaluate the potential for stormwater maintenance districts for long-term operations and maintenance.

4. **Regional revenue source needed for operation and maintenance (See also Discussion Paper #5: EIP and Regional Revenue).** The recommended TMDL strategy relies on pollutant reduction opportunities that are much more dependent on operation and maintenance ("O & M"), in addition to capital costs. If stormwater utility districts are infeasible, then other alternate sources of revenue need to be identified and obtained to achieve the TMDL/ threshold targets.

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**LAND COVERAGE SECTION**

A. **ISSUES FOR GOVERNING BOARD DISCUSSION: Land Coverage**

The Soil Conservation threshold (SC-1) and key policies for land coverage state that land coverage shall not exceed the allowable limits as specified by the Bailey system. The scientific work relied on in 1982 to support this threshold applies basin-wide, not lot-by-lot or project-by-project, but the Bailey system has been applied on a site-specific basis. The success in the use of the Bailey system for the past 30 years is that it effectively halted widespread expansion of land coverage when examined on a basin-wide basis. Still, it is not often understood that the vast amounts of undeveloped forest and park land in the Region, rather than individual parcel regulation, have made such attainment possible for land capability classes 1A, 1C, 3, 4, 5 and 6. While this threshold has addressed the amount of land coverage, what we now know is that it has not adequately addressed the effect of existing land coverage, in particular “grandfathered” or “excess” land coverage. The effect of land coverage is two-fold: First, there is the loss of soil functions like infiltration, nutrient uptake, sediment trapping and plant growth. Land coverage, including permanent disturbance, effectively eliminates soil functions, which when lost contributes to the continuing degradation of the Lake’s clarity. Second, land coverage creates stormwater runoff that did not previously exist within the Region, except under extreme circumstances, such as rain-on-snow events or summer thundershower activity, and this effect too contributes to the loss of clarity.

Through existing policies and programs (especially EIP), some of the soil function loss and stormwater effects have been addressed with residential and commercial BMPs, although Basin-wide compliance is far below targets. In addition, existing policies and programs allow for transfer of coverage for most land uses. While these programs have mitigating measures, such measures have significant room for improvement. An additional land capability tool is proposed for future use in the Region, which has been referred to as the “Functional Open Space (FOS).” This tool seeks to address the effect of coverage by examining site-specific soil constraints and determining how much
capacity the soil has for infiltration, sediment trapping, detention and plant growth. Functional Open Space focuses on using the subject property as its own “treatment” zone for its land coverage. Also proposed herein are the inception and implementation of soil conservation and stormwater management plans to tackle the unaddressed problem of land coverage associated with roads and similar uses, which we now know based on the TMDL science, is among the largest contributors to the continued loss of Lake clarity.

Key topics for the GB’s discussion, based on this discussion paper, are:

1. **Functional Open Space and the effect of land coverage:** The effect of pre-existing land coverage is not addressed by the Bailey system and its current applications. The Pathway Technical Working Group has recommended developing an enhancement to the present land capability approach to address managing the runoff, sediment export and nutrient dysfunction of pre-existing land coverage. This approach, known as “Functional Open Space” would utilize site-specific soil characteristics to determine how much excess coverage can be allowed. Both onsite and offsite treatments could be utilized to achieve adequate soil functioning when “grandfathered” land coverage exceeds the allowable amounts. Redevelopment may need to reduce grandfathered land coverage to 50 to 60 percent (about the maximum feasible amount using Functional Open Space approach).

2. **Transfers of Coverage:** Transfers of coverage have historically allowed minor to major increases in land coverage on a lot or project basis. Land coverage transfers in the same hydrologic transfer areas have attempted to maintain net balance of coverage; however, some watersheds have moderate to severe sediment load issues. Modifications to coverage transfer programs are being considered to restrict transfers into impaired watersheds or subwatersheds and to favor transferring coverage out of SEZs over all of the land capability classes.

3. **Restrictions on Potential Coverage Purchase:** Purchase of potential (future land coverage rights) has effectively slowed down development and reduced the number of developable acres in the Basin. On the other hand, once potential coverage is purchased, the strategies applied to remedy the continuing adverse effects of using or transferring that purchased or pre-existing grandfathered coverage have not been effective. Potential coverage is significantly less expensive than hard coverage. A policy change is being considered that would place restrictions on potential land coverage purchase when the site coverage exceeds the Bailey or IPES limits. At the same time, the land capability system is proposed to be strengthened by focusing future land coverage mitigation and transfers on addressing the on-site effects of hard coverage (i.e., Functional Open Space).

4. **Establishment of Soil Conservation Plans and Storm Water Management Plans:** Comprehensive approaches are needed to address land coverage associated with roads, which often have minimal or insufficient BMPs, yet such land coverage is a major conveyor of sediment and nutrients to receiving waters. A comprehensive and effective remedial strategy would be city and county generated management plans to address land coverage associated with roads and similar uses. Another strategy being considered is requiring perpetual stormwater fees (attached to water/sewer bills) as a mechanism for implementing soil conservation and stormwater management plans (See also Discussion Paper #5: EIP and Regional Revenue).
B. PROPOSED CHANGES AND SUMMARY OF REASONS:
Land coverage is regulated in the Lake Tahoe Basin for the primary reason that its effects eliminate critical soil functions, like infiltration, sediment trapping and nutrient attenuation. When these functions are lost or the results are left uncontrolled, the result is soil erosion and continued degradation of water clarity from lake sedimentation and pollutant loads. The proposed changes to land coverage regulation are aimed at allowing additional land coverage only when sufficient soil capacity exists or can be restored on site or locally, reducing excess land coverage at the source location, targeting hard coverage removal when coverage transfers are allowed, and mitigating the land coverage effects of roads.

The following proposed changes offer the greatest environmental gains over the shortest period of time to address the unaddressed adverse effects of land coverage on the Soil Conservation and Clarity thresholds.

1. Continue Use of Bailey System and IPES for Undeveloped Lands: These systems are both familiar to the public and effective mechanisms that conserve soil resources.

   The present systems summarized here in (a) and (b) will be retained.
   (a) For undeveloped, single-family residential lots that are less than 1/3 acre, land coverage and permanent disturbance is determined using IPES. For all other undeveloped, single-family residential lots, use Bailey land coverage coefficients to determine allowable hard coverage and permanent disturbance.

   (b) For all undeveloped multi-family, commercial, recreation, tourist and industrial land, land coverage and permanent disturbance is determined using the Bailey land coverage coefficients.

2. Functional Open Space – Apply FOS Tool to Existing Development Situations Exceeding Bailey and IPES Allowable Coverage: The “Functional Open Space (FOS)” approach would address the effects of pre-existing over-coverage and transfers of coverage above the Bailey or IPES limits by assuring critical soil functions are mitigated on site or locally. In some cases, less coverage than is currently allowed is needed, especially where existing coverage exceeds 50 to 60 percent. In all cases, land coverage should result in no net export of runoff, sediment, or nutrients (whether FOS is applied onsite or locally). Land coverage generates runoff, conveys sediment and eliminates nutrient cycling. While most of the Basin has moderate to high permeable soils, some areas do not, especially SEZs, urban cores, and areas having naturally restricting layers in the soil. Other areas have land coverage in very close proximity to receiving waters, which means their soil resource has little opportunity for treatment of runoff from adjacent land coverage. The amount and location of land coverage should reflect the ability (i.e., capacity) of the soil resource to infiltrate runoff, capture sediment, and soak up nutrients.

   Some kinds of land uses, like roads, planned urban developments, and public health & safety facilities, have justifiable and unavoidable reasons for exceeding the amount of allowable coverage as determined by the Bailey System and IPES.
An outline of a proposal for implementing the Functional Open Space concept is as follows:

(a) Except as specified below, all existing land uses shall have a base coverage and permanent disturbance using Bailey land coverage coefficients. All excess land coverage and permanent disturbance must mitigate the effects of land coverage and permanent disturbance and loss of soil functioning on a local basis.

(b) The ability (i.e., capacity) of subject parcel or project to accommodate both existing and additional land coverage and permanent disturbance would be determined using a site-specific analysis to evaluate soil infiltration, erosion risks (ground cover), depth to ground water, depth to restricting layer, and related factors (this is the core concept of the Functional Open Space approach).

   (i) All existing and future planned urban developments (including all roads, pathways, trails, etc.) may have a minimum land coverage and permanent disturbance of 20 percent. All PUDs must mitigate the effects of land coverage and permanent disturbance and loss of soil functioning on a local basis.

   Planned Urban Developments are not eligible for additional land coverage transfers since they incorporate FOS into the allowable base coverage and may already exceed the land coverage permitted by the Bailey coefficients.

   (ii) Restrictions and mitigation for SEZ land impacts still apply.

   (iii) All linear public facilities or public health & safety facilities must mitigate the effects of land coverage and permanent disturbance and loss of soil functioning on a local basis.

(c) The maximum additional impervious cover is 5 percent for residential, 10 percent for multi-family and recreation, commercial and tourist, and 20 percent for industrial and public service. The maximum additional impervious cover may need to be reduced or eliminated if there is insufficient Functional Open Space for the existing and/or additional land coverage.

(d) The maximum additional semi-impervious cover is 5 percent for residential, 10 percent for multi-family and recreation, commercial and tourist, and 20 percent for industrial and public service. The additional amount of impervious cover may be converted to semi-impervious cover. The maximum additional semi-impervious cover may need to be reduced or eliminated if there is insufficient Functional Open Space for the existing and/or additional land coverage.

(e) The total amount of land coverage and permanent disturbance cannot infringe upon required locations and area needed for Functional Open Space. In some cases, existing land coverage and/or permanent disturbance will need to be re-
located to provide suitable location and area for infiltration, sediment trapping, and nutrient attenuation.

(f) The location and area of Functional Open Space can occur off site, but must be hydrologically connected to the subject property or properties. The location and area of Functional Open Space cannot adversely affect adjacent, down gradient or cross-gradient properties. Additional BMPs or alternative construction practices may be appropriate when additional land coverage is allowed.

(g) Mitigation fees shall be required for all additional land coverage and permanent disturbance (see requirements for “sending and receiving transfers”). Mitigation fees shall differentiate impervious and semi-impervious types of land coverage. All mitigation fees shall be used to remove hard coverage, with priority given to watersheds or sub-watersheds having impaired conditions.

3. Land Coverage Transfers – (a) link to site specific soil capacity, and (b) restrict sending and receiving coverage transfers and excess coverage mitigation: Where existing watersheds or sub-watersheds have excess land coverage and contribute significantly to degraded water quality, transfers of coverage should be targeted to improve the impaired watersheds and therefore increase the effectiveness of the coverage transfer. Removal of hard coverage should be the highest priority for coverage transfers since hard coverage is the source of runoff, sediment and nutrients. The proposal to implement this provision is as outlined in 2.(c) and (d) above.

Removal of hard coverage from SEZs has not been as effective as planned and should be further encouraged by eliminating restrictions that they originate within the same hydrologic zone as the receiving transfers.

Acquisition of potential (or future) coverage does not adequately address existing sources of runoff, sediment and runoff, so the mitigation approach should be improved. Eventually, we may want to consider the feasibility of phasing out transfers of potential coverage where the effects cannot be mitigated on the receiving site or locally.

An outline of a proposal to implement these concepts is as follows:

(a). All additional land coverage (both impervious and semi-impervious cover) must be offset by restoration of existing land coverage and permanent disturbance in the same County within the Lake Tahoe Basin. In addition, transfers may be offset by restoration of land coverage and permanent disturbance in SEZs at any location within the Lake Tahoe Basin. Transfer of additional land coverage into SEZs, when allowed, must be offset by restoration of existing land coverage and permanent disturbance in the same subwatershed only.

(b). No transfer of additional land coverage may occur if the receiving property is located within a specially designated land management zone identified by TRPA as critical (such as Tahoe Keys, Shorezone, within 150 feet of certain SEZs, etc.).
4. **Comprehensive Plans for Addressing the Effect of Land Coverage Associated with Roads:** While many road locations throughout the Basin have been improved with curbs, gutters, sediment traps, and erosion controls, such improvements have lacked a comprehensive and prioritized approach to focus on the highest priority problem areas. Urban areas discharge enormous volumes of stormwater loaded with sediment and nutrients to receiving waters. Under natural conditions, very little runoff occurred. Treatment of all of the urban stormwater, including infiltration and detention, will greatly reverse the effects of land coverage. Local jurisdictions seem to be best situated to develop and implement comprehensive stormwater management plans, especially for roads and similar areas where such coverage conveys runoff directly to streams and the Lake.

An outline of a proposal to implement these concepts is as follows:

(c). No transfer of additional land coverage may occur if the receiving property is located within an area lacking a soil conservation plan (for forest and non-urban) or stormwater plan (for urban areas).

**D. IMPEDIMENTS TO IMPLEMENTION**

1. **Functional Open Space – Scope of Implementation:** Depending upon the scope of its implementation, FOS can be viewed as a comprehensive enhancement to the Region’s land capability system or as simply a further tool (strategy) to be applied in high priority locations to implement the TMDL. Because the concept is not fully developed for application on all lands within the Region, staff is proposing the concept be applied narrowly as a TMDL implementation strategy in the Regional Plan Update. It would become a performance standard for application in urban core areas, where we know the runoff problems needing to be addressed are the greatest. This approach could potentially reduce the allowable coverage in the urban centers to 50 to 60 percent, a result consistent with the proposed changes to the land use policies from converting to mixed use, compact urban redevelopment. In requiring Functional Open Space in the urban zones, grandfathered coverage over this amount would have to be removed (rather than mitigated elsewhere). This approach would result in smaller “footprints” of redevelopment projects, which could be compensated in appropriate locations by additional height (to accommodate the loss of coverage, if applicable).

2. **Transfer of Coverage Restrictions:** Possible restrictions to the allowable amount of transferable coverage would likely meet resistance from affected parties despite the important environmental gains.

3. **Phase Out of Potential Coverage:** This concept is not considered fully developed or feasible for application on all lands within the Region at this time. The phase out of potential coverage could increase the cost of coverage transfers and excess mitigation significantly. It could also require programmatic changes at CTC and NDSL to focus acquisition only on hard coverage. At a minimum, a transition period would be needed for land banks to exhaust their current supply of potential coverage (already acquired and ready for purchase).
MEMORANDUM

To: Governing Board

From: TRPA Staff

Date: March 24, 2008

Re: The Lake Tahoe Environmental Improvement Program (EIP) and the TRPA Regional Plan Update

ISSUES FOR GOVERNING BOARD DISCUSSION

The Environmental Improvement Program (EIP), conceived and created only a little over 10 years ago, was a response to the realization that the TRPA Regional Plan adopted in 1987 was not achieving threshold gains as expected. The EIP was not a part of the Regional Plan, but an add-on program of capital investment designed to reverse continuing environmental threshold declines by using partnerships with all sectors to fund and implement projects to remedy past environmental harms caused by development. The first billion dollars of funding has been invested in capital and research projects, but much is left to accomplish, with many important projects still in the planning stages. New funding commitments are needed for the next 10 years, but ready funding sources are becoming more doubtful because of the state of the economy and increasingly constrained government fiscal status at all levels. Identifying a local regional revenue source to fund long term operation and maintenance of the project investments already made may be the most intractable issue, because these funds are essential to maintain the effectiveness of the improvements made to date.

While there are many issues to consider, we have identified a few important topics for the Governing Board’s discussion:

1. **Relationship Between EIP and the Regional Plan:** The EIP will be incorporated into the Regional Plan as an implementation strategy to address continuing environmental harms of the past that need to be corrected in order to achieve threshold attainment. The EIP is being reorganized in an approach that creates Focus Areas, Sub-Programs and Action Priorities to provide a direct link to resource management activities, Regional Plan Elements, Threshold Goals and Desired Conditions.

2. **Local Regional Revenue:** Establishing a local regional revenue source to fund the local share of EIP is the biggest issue facing future EIP implementation.

3. **Climate Change:** Accounting for the effects of climate change in developing projects and securing funds for EIP projects will be a component of the EIP. (This issue relates to and is also addressed in Discussion Paper #3: Land Use).

EXISTING CONDITIONS / BACKGROUND

In 1996, the Tahoe Regional Planning Agency (TRPA) evaluated the environmental thresholds to determine whether implementation of the TRPA Regional Plan was effective in attaining and maintaining the thresholds. TRPA found that the majority of threshold standards were not being achieved. Some indicators, such as lake clarity, were continuing to decline. The threshold
evaluation called for an integrated implementation program to reverse the environmental decline and to increase the pace of environmental improvements and ultimately threshold attainment. This was the catalyst for the creation of the EIP, a strategy to help achieve the environmental threshold carrying capacities for the Lake Tahoe Basin.

The first draft of the EIP was prepared in conjunction with the 1997 Lake Tahoe Presidential Forum. The program was designed to accomplish, maintain or exceed multiple environmental goals. Key to the EIP strategy is reliance upon partnerships with all sectors of the community, including the private sector, local, state and federal government, for necessary funding and implementation of watershed management, air quality/transportation, recreation and other threshold related projects. EIP projects are linked to the annual evaluations of EIP implementation at the local level, which serves to set the amount of development allocated for subsequent years through TRPA’s Regional Plan.

As the 10-year funding horizon comes to a close, new commitments are needed (see Attachment “A” for list of 10-year accomplishments). Insufficient funding exists for many projects currently in the planning stages. Escalating construction costs and rising property values are raising the bar for the next 10-year target. To ensure the health of the Lake Tahoe Basin, continued cooperation among funding and implementing entities is essential to completing projects identified in the EIP. The goals of the EIP update are to achieve improved strategic funding and implementation alignment among all partners, establish a program management approach to EIP implementation and accomplishment reporting and link the EIP closer to the Regional Plan.

PROPOSED POLICY CHANGES AND SUMMARY OF REASONS

Note: The EIP funding and implementation goals are related to the use of commodities as incentives to leverage increased investments by the private sector in implementation of EIP type projects. That issue is identified and presented in Governing Board Workshop Discussion Paper #3.

1. **Relationship of EIP and Regional Plan:** Although the 1996 EIP was not adopted as part of the Regional Plan, the EIP Update is proposed to be adopted and incorporated into the Regional Plan in 2009. The updated EIP is centered on six focus areas which are: Restoring Watershed and Habitats, Improving Forest Health, Improving Air Quality and Transportation, Enhancing Recreation and Scenic Resources, Science and Reporting and conducting Public Education and Outreach. Subprograms and action priorities will provide strategic goals within these focus areas such as treating runoff from local city and county roads and treating hazardous fuels within the wild land urban interface.

   **Summary of Reason(s):** The EIP accomplishments are needed to correct the development harms of the past, prior to the formation of the TRPA. Incorporation into the Plan should not be considered mitigation for any future development; rather the EIP Update is necessary to address past harms with continuing present effects that are preventing threshold gains and attainment. The EIP is one of several Regional Plan strategies geared toward more aggressively correcting past adverse environmental effects that are preventing threshold attainment.

   The 1997 EIP listed more than 700 projects with budgets and implementation schedules organized by threshold areas. This approach required a 10-year prediction of all projects and costs that needed to occur in order to make substantial progress toward threshold attainment. Over time, many project descriptions have changed as a result of new information and evolving economic conditions. Project schedules deviated substantially for these reasons.

   The reorganization of the EIP into Focus Areas, Sub-programs and Action Priorities (see Attachment “B” for complete list) more accurately reflects the resource management activities undertaken by our EIP partners, provides a more direct link between potential funding
sources and projects and allows for greater detail in reporting financial investments and environmental accomplishments.

2. **Secure Local Regional Revenue for Capital Projects and Long-Term Operations and Maintenance:** The updated Draft EIP Finance Plan makes recommendations for generating local revenue from a variety of sources. Concern exists that the next 10-year state and federal EIP commitments may be difficult to secure without a guaranteed source of local funding.

Summary of Reason(s): A significant gap in the 1987 Regional Plan was the absence of sufficient measures to remediate the ongoing adverse effects of past environmental mistakes. The extent of improvements needed to make the gains necessary to attain thresholds as a result of these past policies or lack thereof cannot be achieved by project-level regulation and case-by-case enforcement alone. Needed improvements to correct the effects of past environmental harms are unlikely to be achieved without a relatively secure funding source to pay for needed capital improvements and protections like those initiated during the first 10 years of the EIP.

The draft EIP finance plan currently under development includes recommendations for generating local revenue from a variety of sources (see Exhibit “C” for draft recommendations). A 2006 TRPA poll of residents in El Dorado and Placer County living outside the Tahoe Basin indicated support for implementing a fee to fund water quality and transportation related improvements within the Tahoe Basin, administered as local stormwater assessment districts, sales taxes, or other means. Many jurisdictions across the country have implemented stormwater assessment fees to generate revenue for watershed management activities. These jurisdictions have acted in response to more stringent federal Clean Water Act storm water control requirements; the same requirements will become effective in the Tahoe Basin as a result of the TMDL once finalized. Regional Plan amendments are being proposed that will put local jurisdictions in a position to be in or close to compliance once these more stringent stormwater requirements come into effect.

3. **Incorporate Climate Change Effects and Funding into EIP:** We propose to link EIP projects to climate change effects to the maximum extent in order to leverage new sources of funds that may be available for this purpose but may also have a direct relationship to needed EIP projects. Both for global and local reasons, climate change will be addressed in the EIP update. Recent studies indicate that warming trends could have dire consequences on Lake Tahoe.

Summary of Reason(s): Goals and Policies are being developed for inclusion in the Regional Plan that relate to climate change – both reducing the load of carbon emissions in the Region and reducing the adverse effects of climate related changes. There are two primary considerations relevant to the EIP in regard to global climate change. First, it is important to consider the latest scientific information pertaining to the effects of climate change on resource management activities such as rising snow levels and changes to hydrology. The EIP recognizes that such considerations should be considered when planning and designing EIP projects so that their effectiveness is maintained over time in a changing hydrologic regime.

Second, the EIP will consider how implementing EIP projects may address concerns related to climate change such as the reduction in global greenhouse gases from transit programs or wood stove retrofits. Implementing EIP projects results in benefits beyond those directly tied to the environmental threshold carrying capacities. More and more funding is being made available for climate change related projects. Highlighting these benefits is another way to stress the importance of the EIP and may assist in securing funding from revenue sources that may require a project to have a nexus to global climate change.
4. **Incorporate TMDL Strategies and Cost Estimates into the Updated EIP and the Regional Plan:** A preferred set of implementation strategies and cost estimates to achieve the TMDL Clarity Challenge is being proposed for selection as part of the Regional Plan Amendments in order to make gains toward achieving the Water Quality threshold.

**Summary of Reason(s):** As part of developing the TMDL’s interim goal of 80 feet of clarity over the next 20 years (“The Clarity Challenge”), Lahontan evaluated several different sets of implementation strategies that could achieve successful gains toward achievement of TRPA’s water clarity threshold. The EIP Update will incorporate a preferred set of strategies and cost estimate that would achieve this interim clarity goal. Therefore, the proposed EIP programs and cost estimates have been developed to be consistent with a range of strategies that represent different levels of effort associated with different funding estimates. Incorporating a selected set of strategies and the associated funding goal into the Regional Plan update will set the implementation goals and funding targets necessary to improve Lake clarity from its present 68 feet to 80 feet within 20 years.

**IMPEDIMENTS TO SUCCESS OR IMPLEMENTATION OF POLICY CHANGES**

1. **Secure a sufficient source of local revenue:** In today’s challenged fiscal environment at every level of public governance, establishing a local public funding source is a significant impediment. Without local commitments to participate in EIP implementation, state and local funding may be put at risk.

2. **Better link EIP projects to Threshold Indicators:** An ongoing challenge facing the EIP, and other restoration programs across the county, is the need to show more direct relationships between restoration activities and their effect on threshold indicators. Funding scientific studies is important in order to correlate effectiveness to implementation and generate information that will help to prioritize projects. Models, such as the TMDL, represent important tools that can guide the planning and implementation of restoration activities to ensure projects are achieving maximum efficiency while stretching limited restoration dollars.

If you have any questions regarding this item please feel free to contact Steve Chilton, Branch Chief, Environmental Improvement or Paul Nielsen, Assistant Branch Chief, Environmental Improvement at (775) 589-5249. Thank you.

**List of Attachments:**
- Attachment “A” Partial List of 10-Year EIP Accomplishments
- Attachment “B” Proposed Organization of Updated EIP
- Attachment “C” Draft EIP Finance Plan Recommendations
- Attachment “D” Draft EIP Related Goals and Policies
ATTACHMENT “A”

10-Year EIP Investments and Accomplishments

The 1997 EIP identified $908 million worth of needs over a ten year period. In 2006 the total investments in the EIP was approximately $1.1 billion. More than 50 public and private organizations have joined together in the effort to save Lake Tahoe. Investments by funding sector are as follows:

- Federal $449.7 million
- State of California $380.9 million
- State of Nevada $82.0 million
- Local Governments $22.9 million
- Private $179.1 million

Among the significant accomplishments in conserving Lake Tahoe are:

Watershed Improvements
- Acquired more than 2,968 acres of sensitive land
- Improved over 27,450 acres for wildlife habitat
- Restored more than 367 acres of sensitive stream zones
- Treated more than 1,000 acres of storm water runoff
- Treated or removed 286 miles of dirt roads in forests
- Implemented 9,100 private parcel water quality improvements

Public Access and Recreation
- Constructed more than 76 miles of new trails
- Constructed or rehabilitated 75 public facilities

Vegetation and Fire Fuels Management
- Reduced fuels and fire hazards on approximately 19,000 acres
- Streamlined Forest Practice Rules to facilitate “fire safe” projects while protecting water quality
- Completed Community Wildfire Protection Plans throughout the Tahoe Basin

Air Quality/Transportation Improvements
- Constructed eight facilities to increase transit ridership
- Reduced over 3.4 million pounds of emissions via alternative-fueled vehicles and other transit improvements

Research/Monitoring and Technical Assistance
- Funded over $47 million in research and monitoring projects
- Established the Tahoe Science Consortium to better inform agency decision-making
- Federal agencies have provided $8.7 million in technical assistance to EIP partners
EIP Focus Areas, Sub-programs, and Action Priorities

WATERSHED AND HABITAT IMPROVEMENT FOCUS AREA

Stormwater Management Sub-program
- Reducing Stormwater from Local Roads Action Priority
- Reducing Stormwater from State Highways Action Priority
- Retrofitting Public and Private Facilities Action Priority
- Reducing Stormwater from Forest Roads Action Priority

Watershed Management Sub-program
- Restoring Nevada Priority Watersheds Action Priority
- Restoring the Upper Truckee Watershed Action Priority
- Restoring the Blackwood Creek Watershed Action Priority
- Restoring the Ward Creek Watershed Action Priority
- Restoring the Meeks Creek Watershed Action Priority
- Restoring the Taylor, Tallac, and Spring Creek Watersheds
- Restoring California Priority Watersheds Action Priority
- Acquiring Environmentally Sensitive Land Action Priority

Threatened, Endangered, and Sensitive Species Sub-program
- Implementing the Tahoe Yellow Cress Recovery Plan Action Priority
- Restoring Lahonton Cutthroat Trout Action Priority
- Protecting Other Sensitive Species Action Priority

Habitat and Vegetation Improvement Sub-program
- Enhancing Fish and Wildlife Habitat Action Priority
- Controlling Invasive Terrestrial Species Action Priority
- Controlling Invasive Aquatic Species Action Priority

FOREST HEALTH FOCUS AREA

Forest Health & Fuels Management Sub-program
- Improving Vegetation Conditions Action Priority
- Treating Hazardous Fuels on Public & Private Urban Lots Action Priority
- Treating Hazardous Fuels in the Wildland Urban Interface Action Priority
- Reducing Fire Threat within the General Forest Action Priority
- Treating Biomass from Forest Fuels Reduction Action Priority

AIR QUALITY AND TRANSPORTATION FOCUS AREA

Air Quality & Transportation Sub-program
- Improving Air Quality Action Priority
- Enhancing Pedestrian and Bicycle Facilities Action Priority
- Improving Transit Action Priority
- Developing Smart Street Action Priority
- Improving Regional Roadways Action Priority
RECREATION AND SCENIC FOCUS AREA
  Recreation Sub-program
  Improving Lake Access Action Priority
  Developing a Comprehensive Trail System Action Priority
  Improving Day Use and Overnight Recreation Facilities Action Priority
  Improving Educational Programs and Facilities Action Priority
  Expanding of Local Parks and Recreation Facilities Action Priority
  Scenic Sub-program
  Improving the Scenic Quality of Roadway Units Action Priority
  Improving the Scenic Quality of Shorezone Units Action Priority

SCIENCE & REPORTING FOCUS AREA
  Science Sub-program
  Monitoring Action Priority
  Research Action Priority
  Data Distribution, Data Management, and Data Synthesis Action Priority
  Oversight and Reporting Sub-program
  Annual Oversight, Coordination, and Reporting Action Priority

PUBLIC OUTREACH & EDUCATION FOCUS AREA
  School Education – K-12, College Level Sub-program
  Coordinate Educational Efforts with EIP Partners
  Enhance Educational Opportunities with Tahoe Center for Environmental Sciences
  Promote opportunities with SWEP/Project WET, Environmental Sciences
  Community Outreach and Publications Sub-program
  Coordinate EIP Messages and Raise Awareness to Promote Stewardship
  Utilizing Signage, Events, Mailings, Welcome Packets, and Media Outreach Action Priority
  Create Publications and Educational Materials, such as DVDs and displays, That Broadly Raise Awareness and Promote Env. Stewardship Action Priority
  Web Development, Photos/Images, and Contractor Assistance with Above Campaigns Action Priority
As the preceding discussion has indicated, there are a number of federal, State, and local funding options that could provide more funding for the EIP. Existing federal and state transportation programs, California Propositions 84 and 1E, and enforcement of existing regulations are likely to provide important cost shares. TRPA fees are likely to provide more funding than counted as anticipated in Section 2. Parking fees may provide significant new funding for transportation programs. Increases in local sales, fuel, and entertainment taxes could provide important new sources of local revenue for EIP Phase II, subject to voter approval. The following recommendations are based on the funding options that appear to offer the greatest opportunities for EIP Phase II financing.

**Federal Funding**

- **Reauthorize federal funding under LTRA.** SNPLMA funds for EIP projects are tied to federal funding authorizations contained in the LTRA. These authorizations end in 2011. Reauthorization of LTRA funding for 2012 and beyond should be the first priority for EIP Phase II financing as it relates to the federal government’s participation. In the absence of specific federal authorizations for EIP sub-programs and projects, the federal funding sources described in Section 4.1 will not be sufficient to cover the EIP Phase II costs allocated to the federal government. Without new direct appropriation, the EIP must work through many existing federal grant programs. Each grant program has its own rules that dictate what types of expenses are allowed and how the funds can be obtained, resulting in a cumbersome and unpredictable federal funding partnership for EIP.

- **Pursue federal funding through other federal programs.** Many federal programs are expected to provide funds for the EIP. The most promising sources are the SNPLMA White Pine Amendment, transportation programs administered by the Federal Highway Administration and the Federal Transit Administration, and environmental programs administered by the U.S. Environmental Protection Agency and the Fish and Wildlife Service.

- **Identify and pursue opportunities to work with other regions to secure new funding** for federal interests such as transportation, air quality, federal lands and endangered species management.

**State of California Funding**

- **Actively pursue Proposition 84 grant programs.** Local public agencies on the California side of Tahoe Basin should coordinate their applications and aggressively pursue State of California funding authorized under Proposition 84 grant programs. The most promising Proposition 84 programs include $127 million available for the implementation of Integrated Regional Water Management Plans; $90 million in local public
agency matching grants for the reduction and prevention of stormwater contamination of rivers, lakes, and streams; $400 million in local public agency matching grants for the acquisition and development of new parks, expansion of overused parks, and creation of new parks; and in excess of $400 million in local public agency matching grants for habitat and special status species protection, establishment of Natural Community Conservation Plans, and forest conservation and protection projects.

- **Actively pursue Proposition 1E stormwater grant programs.** Local public agencies on the California side of Tahoe Basin should coordinate their applications and local matching funds and aggressively pursue State of California funding authorized under Proposition 1E for stormwater program funding. Of $289.5 million available after bonding expenses, $187.5 million remains for future appropriation. These funds will be spent in a new grant program for stormwater runoff projects. Projects will need to have a non-State fund share of at least 50 percent.

- **Actively pursue Proposition 1B State-Local Partnership Program Funding.** Tahoe Basin transportation agencies should collaborate and coordinate efforts for securing funding from the CTC administered State-Local Partnership Program when funding becomes available. This program will award through dollar-for-dollar matching grants totaling $1 billion over five years to eligible transportation projects nominated by applicant transportation agencies.

- **Work for a new State water bond.** The legislature has recently considered legislation to place a water project bond initiative on the ballot, and water and environmental bond initiatives have been developed and promoted by other groups. The recent economic downturn and political factors have delayed these efforts. Basin interests should work with the legislature and others to include language for funding of EIP projects on future water bond initiatives.

**State of Nevada Funding**

- **Continue discussions with Nevada leadership on Phase II funding commitment.** The Nevada Tahoe Resource Team should continue working with Nevada’s elected leaders on State of Nevada’s funding commitment for EIP Phase II with the goal of determining funding sources, schedule, and size of State of Nevada’s funding support by EIP Phase II subprogram.

- **Explore new bond issue for Phase II funding.** The Nevada Tahoe Resource Team, working with Nevada’s elected leaders, should assess the feasibility, timing, and size of one or more new bond issues, similar to those enacted by Nevada voters in 1986 and 1996, to fund State of Nevada’s share of EIP Phase II costs.

**Local Funding**

- **Commission a study to evaluate alternative institutional arrangements for implementing regional stormwater financing**
solutions. Implementation of a regional approach to funding, implementing, and maintaining stormwater projects could provide several important benefits to the Tahoe Basin. These include assisting local jurisdictions responding to changing watershed management policies, providing technical assistance to local agencies operating and maintaining existing stormwater infrastructure, expanding basin-wide partnerships and sharing information and lessons learned, coordinating and integrating stormwater programs, providing a central point of contact and a policy infrastructure that advocates for Lake Tahoe residents, and developing more stable and increased levels of funding for stormwater management. Potentially offsetting these benefits is a complex array of institutional, legal, and jurisdictional considerations. Building on the work already started by NTCD, TRPA should initiate a comprehensive study of alternative regional stormwater management and financing solutions with the objective of identifying those best suited to the needs of the Basin. Possible institutional arrangements to be addressed should include, but not be limited to, creation of a joint powers authority (JPA) for financing and possibly operating and maintaining stormwater facilities and programs in the Basin; creation of a regional stormwater utility responsible for financing, implementing, and maintaining stormwater programs in the Basin; and incorporation of regional stormwater financing and management into an existing entity, such as the Tahoe Transportation District.

- **Implement Tahoe Basin stormwater fees.** Given the anticipated cost of EIP stormwater management programs and the overall importance of stormwater management to stabilizing and improving Lake Tahoe’s clarity, increased local funding for stormwater management is needed. Local public agencies responsible for stormwater management in Tahoe Basin should pursue implementation of regional stormwater fees with a goal of generating $5 million to $10 million of stormwater fee revenue annually (2007 dollars). The lower end of the range would be consistent with a monthly fee on the order of $5 per single-family residential equivalent, while the upper end would entail a monthly fee on the order of $10 per single-family residential equivalent. Fee revenue would help meet the local public agency share of EIP Phase II stormwater management costs and also would serve as necessary matching funds for accessing state and federal funding for stormwater management projects.

- **Work with TRPA to Develop an EIP Implementation Fee.** The TRPA Goals and Policies State that “The timing and phasing of both new development and remedial measures must, therefore, be carefully linked to ensure steady progress toward the environmental thresholds” (Chapter VII, Implementation Element, Development and Implementation Priorities). This option would involve the generation of local revenue for EIP Implementation through the payment of fees associated with new allocations of development (and possibly redevelopment) to be issued under the new TRPA Regional Plan.
- **Place before the electorate a proposal to increase Tahoe Basin transient occupancy tax rates.** Put before voters a proposal to increase TOT rates for hotels, motels, and rental properties by 1% and implement a 5% TOT on campgrounds and recreational parks within Tahoe Basin with the objective of generating an additional $30 million in TOT revenue for EIP Phase II projects over 10 years.

- **Place before the electorate proposals to increase sales and use tax rates to fund transportation, stormwater management, air quality, recreation, and water quality projects.** Put before Washoe, Douglas, and Carson county voters questions to increase local option sales taxes, as authorized under existing Nevada statutes, to fund public expenditures for transportation, air quality, recreation, and water and wastewater improvements. Put before City of South Lake Tahoe, Placer County, and El Dorado County voters proposals to increase supplementary sales tax rates to fund transportation, stormwater, and other public infrastructure projects within the affected jurisdictions. Put before voters within the jurisdiction of the Tahoe Transportation District proposals to adopt new taxes to fund Tahoe Basin public transportation systems and related facilities, as authorized by Title IX of the Tahoe Regional Planning Compact.

- **Form the North Lake Tahoe Transportation Authority and place before voters within its jurisdiction a proposal to adopt a half-cent supplementary sales tax.** California Government Code Title 7.96 authorizes and defines the boundaries of a North Lake Tahoe Transportation Authority for the purpose of funding North Lake Tahoe transportation infrastructure improvements.

- **Commission a Tahoe Basin User Fee Study.** Commission a study to identify and evaluate expanded or new user and access fees to help fund the local share of EIP Phase II program costs. This study should assess feasibility, revenue potential, legal and institutional considerations, and economic impacts of expanded or new user fees, including transit fares, parking fees, access fees, concessionaire fees, facility use charges, and road tolls.

**Private Funding**

- **Use Existing Defensible Space Laws to Increase the Pace of Fuelwood Removal on Private Lands.** Public Resource Code 4291 now requires a defensible space of 100 feet around rural buildings and structures. Local governments should use PRC 4291 and related information and guidelines to provide incentive for homeowners and others to remove fuelwood from private lands.

- **Work with Recreation Providers to Implement Recreation Projects.** Many of the projects under the recreation sub-program should be provided privately. TRPA and local governments should work with private recreation providers to facilitate implementation of EIP projects.
Relevant Goals and Policies concerning the EIP currently proposed as updates in the Regional Plan include:

**GOAL #1**
THE ENVIRONMENTAL IMPROVEMENT PROGRAM IS A COLLABORATIVE EFFORT AMONG THE LOCAL, STATES AND FEDERAL GOVERNMENT, SPECIAL DISTRICTS AND THE PRIVATE SECTOR, WITH EACH GROUP PLAYING AN INTEGRAL ROLE IN THE IMPLEMENTATION AND SUPPORT OF THE PROGRAM.

Policies

1. The Local, States and Federal Government, special districts and the private sector will be responsible for carrying out capital projects consistent with the goals and priorities of the EIP.

**GOAL #2**
THE ENVIRONMENTAL IMPROVEMENT PROGRAM IS CONSISTENTLY SUPPORTED BY A DIVERSITY OF FUNDING SOURCES

Policies

1. Financial Costs associated with the EIP will be distributed equitably among governmental entities and Basin users.

2. Regional Revenue Source shall be established and maintained to help the local government share of the EIP.

3. Incentives should be developed in conjunction with the Regional Plan update to encourage accelerated investment in accomplishing the goals of the EIP by the local and private sector (see policy paper #3 for details).

4. Allocations of additional development shall be linked to investments made by the local and private sector that contribute toward achieving the goals of the EIP.

1.1 The above goals and policies are substantially consistent with similar policies in the current Regional Plan.

A second major policy issue involving the EIP and the Regional Plan concerns the integration of Lake Tahoe Total Daily Maximum Load (TMDL) implementation into the updated EIP. The TMDL issue is not addressed by current TRPA Goals and Policies. Proposed Goals and Policies concerning TMDL include:

**TMDL IMPLEMENTATION GOAL:**
IMPLEMENT POLLUTANT CONTROL PROJECTS AND PROGRAMS TO REDUCE LOADS OF FINE SEDIMENT, NITROGEN AND PHOSPHORUS TO LAKE TAHOE TO MEET THE CLARITY CHALLENGE BY 2028.

Pollutant Reduction Policy 1. MAXIMIZE IMPLEMENTATION OF URBAN STORMWATER TREATMENT IN ACCORD WITH THE POLLUTANT REDUCTION STRATEGY SELECTED TO MEET THE LOAD REDUCTIONS OF FINE PARTICULATE, NITROGEN AND PHOSPHORUS FROM URBAN SUBWATERSHEDS TO MEET THE CLARITY CHALLENGE.
MEMORANDUM

To: TRPA Advisory Planning Commission
From: TRPA Staff
Date: April 28, 2008
Subject: Recommend Amendment to Chapter 79 Fish Resources to Prohibit the Introduction of Aquatic Invasive Species into the Waters of the Lake Tahoe Region; to require that All Watercraft Being Launched into the Waters of the Tahoe Region be Subject to Inspection to Prevent the Introduction of Aquatic Invasive Species; to add related Amendments to Chapter 2 Definitions; and related amendments.

Requested Action: Staff requests the Advisory Planning Commission (APC) to make a recommendation to the Governing Board on the proposed Code of Ordinances (Code) amendment creating Section 79.3 Aquatic Invasive Species, Subsection 79.3.A Prohibition, and Subsection 79.3.B Watercraft Inspections, and amending Chapter 2 Definitions. The proposed amendments would prohibit the transport and introduction of aquatic Invasive Species into the waters of the Lake Tahoe Region and require that all watercraft entering the waters of the Lake Tahoe Region be subject to an inspection to prevent such introduction.

Staff Recommendation: Staff recommends that the APC recommend approval of the required findings contained in this staff summary and the proposed amendments to the Governing Board.

Required Motion(s): To recommend approval of the proposed action, the APC should make the following motions, based on this staff summary and the evidence in the record:

1) A motion to recommend approval by the Governing Board of the required findings (see Attachment A), including a finding of no significant effect; and 2) A motion to recommend approval by the Governing Board of the proposed ordinance (see Attachment B).

Project Description/Background: The TRPA Goals and Policies states that non-native wildlife and exotic species shall be controlled, and release of such animals into the wild is forbidden (See Goals and Policies Chapter IV, Wildlife, Goal #1, Policy 3). Currently, TRPA does not have Code language regarding aquatic Invasive Species. However, the states of California and Nevada have laws prohibiting the transport and introduction of AIS; in addition, Federal Law also applies. The State of California conducts mandatory inspections of watercraft at the Truckee Agricultural Station, yet there are other portals of entry to the Tahoe Region that watercraft can enter unchecked. There are several
waterways in the United States that require some level of inspection prior to launching to prevent the introduction of aquatic Invasive Species. As such, this course of action is not unprecedented.

On January 6, 2007, quagga mussels, a type of invasive mussel, were discovered in Lake Mead, Nevada and Arizona. Since that time, quagga and/or zebra mussel infestations have been discovered in Lake Mohave, Lake Havasu, reservoirs of the City of San Diego and in January of 2008, in the San Justo Reservoir in San Benito County, approximately 250 miles from Lake Tahoe. Boating in San Justo Reservoir has since been banned. Currently, Lake Tahoe and other lakes of the Tahoe Region are believed to be free of quagga and zebra mussels. However, zebra and quagga mussels and New Zealand mud snail pose a major threat to Lake Tahoe and other lakes of the Tahoe Region if they were to become established. Experts fear that these invertebrates could spread quickly through the Truckee River watershed and become a downstream threat to the City of Reno and Pyramid Lake. If zebra or quagga mussels or the New Zealand mud snail were to infest Lake Tahoe, they could:

- Have severe impacts on aquatic biologic communities, fishing and recreation.
- Foul facilities such as docks and ramps.
- Encrust boats and clog engines.
- Litter beaches with sharp odiferous shells.
- Clog drinking water and other intake pipes, increasing maintenance costs to these systems.

Zebra mussels were first discovered in the U.S. in Lake St. Clair (near Detroit) in 1988. Since that time zebra mussels have spread at an alarming rate through much of the Eastern United States. Quagga mussels were until recently thought to be a type of zebra mussel and, as indicated above, have spread from the great lakes to Arizona, Nevada and California. The New Zealand mud snail was first found in the Snake River Drainage in the 1980’s. Since that time this snail has spread too many areas of the west, including California’s central valley and the Owens River. Billions of dollars have been spent nationwide dealing with the maintenance issues aquatic Invasive Species infestation present, and countless dollars have been lost due to the economic impacts they have on tourism and recreation.

In addition, other aquatic Invasive Species such as Eurasian water milfoil, curlyleaf pondweed, large mouth bass and other warm water fish species currently exist in Lake Tahoe. The existence of these species in the Lake has started to disrupt the food web, has impacted water clarity and has had a deleterious effect on native fish populations such as the Lahontan redside shiner and speckled dace. Milfoil also creates a habitat that the New Zealand mud snail and these warm water fishes can thrive in.

In May of 2007 the TRPA Governing Board unanimously passed a resolution adopting the need for emergency action in regards to aquatic Invasive Species (See Resolution #2007-10). These proposed new ordinances are a direct result of that resolution. Prohibiting the importation of aquatic Invasive Species and having all watercraft subject to inspection are important measures that will aid in this effort.

Aquatic Invasive Species present a growing worldwide problem. New Invasive Species are continually being identified. Impacts from aquatic Invasive Species can be extreme and affect ecosystems, recreation, and economics. Aquatic Invasive Species infestations
are generally permanent; prevention is the only good strategy to combat them. Education is critical because aquatic Invasive Species generally need humans to move anywhere but downstream.

The Code amendments being presented were drafted to help prevent existing infestations from spreading in the Region and to keep other species from becoming established. The first step in aquatic Invasive Species control is to prohibit their introduction and transport in the Tahoe Region, similar to other existing state and federal laws. Staff is also taking the additional step of prohibiting watercraft from launching if found to be contaminated with aquatic Invasive Species. Further, staff is proposing that all watercraft attempting to launch into the waters of the Tahoe Region be subject to an inspection. These inspections would be conducted at launch facilities in order to detect boats that may be contaminated with aquatic Invasive Species.

Inspections will consist of survey questions, and if warranted thorough physical examinations of the watercraft. The questions will determine the level of risk a particular watercraft presents. If the responses to these questions present a high level of risk, the inspector will ask the owner for permission to conduct a more thorough inspection. If permission is not granted, the owner will be further educated regarding the threat aquatic Invasive Species pose. They will also be informed of the regulations pertaining to aquatic Invasive Species (State, Federal and TRPA) and that they would not be able to launch until an inspection is conducted. If the owner launches despite a request for inspection, they may be subject to a $5,000 penalty for a violation of TRPA’s Code.

Assuming permission is granted the inspector will look at the hull, engine, trailer, live and bait wells, bilge, etc. for any signs of contamination. If any organisms are found or if there is standing water in any part of the boat, the owner would be instructed to have their boat decontaminated. TRPA has purchased four portable boat wash units that will be located around the Lake. Their locations are still being determined; ideally one would be placed on each shore of the Lake.

Issues/Concerns: The only issue/concern identified by staff is the potential for impacts to the Recreation Threshold. The process of inspections may lead to delays at launch facilities and/or prevent a boater from launching all together if the inspection reveals the presence of aquatic Invasive Species. These impacts are insignificant since most launch facilities already experience long lines due to the normal high demand in the Region. The inconvenience a boater may experience by a delayed launch or not being able to launch pales in comparison to the drastic impacts the Recreation Threshold will face if aquatic Invasive Species become established. To offset this potential impact, TRPA has purchased four portable boat wash units to decontaminate these boats.

Regional Plan Compliance: The proposed project complies with all requirements of the TRPA Goals and Policies, Plan Area Statements, and Code of Ordinances, including all required findings in Chapters 6 of the TRPA Code of Ordinances (see attachment A for details).

If you have any questions please contact Dennis Zabaglo at (775) 589-5255 or via email at dzabaglo@trpa.org.

Attachments:
  Required Findings and Rationale (Attachment A)
Draft Ordinance (Attachment B)
Propose Language (Attachment B, Exhibit 1)
6.3 Threshold-Related Findings: The following specific findings shall be made, pursuant to Articles V(c), V (g) and VI (b) of the Compact in addition to any other findings required by law.

6.3. A Findings Necessary To Approve Any Project: To approve any project, TRPA must find, in accordance with Sections 6.1 and 6.2, that:

(1) The project is consistent with, and will not adversely affect implementation of the Regional Plan, including all applicable Goals and Policies, plan area statements and maps, the Code and other TRPA plans and programs.

Rationale: The amendment to Section 79.3 Aquatic Invasive Species, Subsection 79.3.A Prohibition, Subsection 79.3.B Watercraft Inspections and Chapter 2 Definitions, will not adversely affect implementation of the Regional Plan. Staff’s proposed amendment is consistent with the Regional Plan and TRPA plans and programs. The proposed amendment will aid in preventing aquatic Invasive Species introduction and its spread in the Waters of the Lake Tahoe Region.

In Chapter V Recreation Element of the Tahoe Regional Planning Agencies Goal and Policies, the Policy Statement states:

“It shall be the policy of the TRPA Governing Body in development of the Regional Plan to preserve and enhance the high quality recreational experience…”

Although watercraft inspections may have a perceived impact to a high quality recreation experience due to the potential increase in wait time to launch, the impact aquatic Invasive Species will have on recreation, should they become established, would be far greater. Specifically, mussels can foul beaches with sharp shells and odiferous odors, and they can cause severe damage to boats themselves. Most inspections can be conducted during the wait period boaters already experience when launching. Further, TRPA has purchased four portable boat wash units that will allow infected, or believed to be infected, boats to be decontaminated. Once decontaminated a boat would be allowed to launch.

(2) The project will not cause the environmental threshold carrying capacities to be exceeded;

Rationale: This amendment will aid in preventing the degradation of the Fisheries and Recreation Thresholds. The
prohibition and inspections will allow the TRPA to help prevent aquatic Invasive Species from being introduced, and therefore prevent severe harm to the Recreation and Fisheries Thresholds. In the event that new Invasive Species become established, there will likely be impacts beyond that of any existing environmental thresholds, most notably the economy. The Lake Tahoe Region relies heavily on a tourist economy, with the main focus being the Lake itself. Should the Lake experience any significant impacts due to an infestation, the results would be devastating. As stated previously, beaches would be fouled with odiferous and sharp shells, which would certainly affect a visitors’ decision to visit Lake Tahoe. Boaters may also fear damage to their boat and decide to recreate elsewhere. Further, the amount of money water purveyors would need to spend on maintenance would likely cause an increase in water rates in the Region.

(3) Wherever federal, state or local air and water quality standards applicable for the region, whichever are strictest, must be attained and maintained pursuant to Article V (d) of the Tahoe Regional Planning Compact, the project meets or exceeds such standards.

Rationale: Any project that may come forth due to this provision will be required to meet air and water quality standards as set forth in the TRPA Compact.

6.5 Findings Necessary to Amend or Adopt TRPA Ordinances, Rules or Other TRPA Plans and Programs:

To approve any amendment or adoption of the Code, Rules or other TRPA plans and programs which implement the Regional Plan, TRPA must find, in addition to the findings required pursuant to Section 6.3, and in accordance with Section 6.1 and Section 6.2, that the Regional Plan and all of its elements, as implemented through the Code, Rules and other TRPA plans and programs, as amended, achieves and maintains the thresholds.

Rationale: See Findings and Rationale listed above. The amendment is consistent with the Compact and with attainment or maintenance of the thresholds.

Environmental Documentation: Staff has completed an Initial Environmental Checklist for the proposed Code of Ordinance changes. Staff recommends that a Finding of No Significant Effect be made for the Code Amendments based on the IEC, Chapter 6 and 13 findings and information contained in this Staff Summary and the agency record. The IEC is available in TRPA’s files and will be available at the APC meeting.
AN ORDINANCE AMENDING ORDINANCE NO. 87-9, AS AMENDED, BY AMENDING THE CODE OF ORDINANCES OF THE TAHOE REGIONAL PLANNING AGENCY; CHAPTER 79 FISH RESOURCES, TO INCLUDE SECTION 79.3 AQUATIC INVASIVE SPECIES, SUBSECTION 79.3.A PROHIBITION, PROHIBITING THE TRANSPORT AND INTRODUCTION OF AQUATIC INVASIVE SPECIES, AND SUBSECTION 79.3.B WATERCRAFT INSPECTIONS, SUBJECTING ALL WATERCRAFT TO AN INSPECTION FOR THE DETECTION OF AQUATIC INVASIVE SPECIES PRIOR TO LAUNCHING, AND CHAPTER 2 DEFINITIONS TO INCLUDE THE DEFINITION OF INVASIVE SPECIES AND PROVIDING FOR OTHER MATTERS PROPERLY REALATING THERETO.

The Governing Board of the Tahoe Regional Planning Agency does ordain as follows:

Section 1.00 Findings

1.10 It is necessary and desirable to amend TRPA Ordinance 87-9, as amended, which ordinance relates to the Regional Plan of the Tahoe Regional Planning Agency (TRPA) by amending Chapter 79, to include Section 79.3 Aquatic Invasive Species, Subsection 79.3.A Prohibition, and Subsection 79.3.B Watercraft Inspections and Chapter 2 Definitions, to further implement the Regional Plan pursuant to Article VI (a) and other applicable provisions of the Tahoe Regional Planning Compact.

1.20 These amendments have been determined not to have a significant effect on the environment, and are therefore exempt from the requirements of an environmental impact statement pursuant to Article VII of the Compact.

1.30 The Advisory Planning Commission (APC) has conducted a public hearing on the amendments and recommended adoption. The Governing Board has also conducted a noticed public hearing on the amendments. At those hearings, oral testimony and documentary evidence were received and considered.

1.40 The Governing Board finds that, prior to the adoption of this ordinance, the Board made the findings required by Chapter 6 of the Code and Article V (g) of the Compact, and the findings required by Section 2.40 of Ordinance 87-8. As to the Ordinance 87-8 findings, the Board finds that those findings were supported by a preponderance of the evidence in the record.
Amendment to Chapter 79.3, 79.3.A, and 79.3.B

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1.50 The Governing Board finds that the amendments adopted hereto will continue to implement the Regional Plan, as amended, in a manner that achieves and maintains the adopted environmental threshold carrying capacities as required by Article V(c) of the Compact.

1.60 Each of the foregoing findings is supported by substantial evidence in the record.

Section 2.00 Amended Section 79.3 to add Aquatic Invasive Species, Subsection 79.3. A Prohibition, Subsection 79.3.B Watercraft Inspections and Chapter 2 Definitions, of the TRPA Code of Ordinances and Rules of Procedures

2.10 Subsection 6.60 of Ordinance No. 87-9, as amended, is hereby further amended by amending Chapter 79, to include Section 79.3, Subsection 79.3.A, and Subsection 79.3.B and amending Chapter 2 as set forth on Exhibit 1, dated April 28, 2008, which attachment is appended hereto and incorporated herein.

Section 3.00 Interpretation and Severability

The provisions of this ordinance and the amendments to the Code of Ordinances adopted hereby shall be liberally construed to affect their purposes. If any section, clause, provision or portion thereof is declared unconstitutional or invalid by a court of competent jurisdiction, the remainder of this ordinance and the amendments to the Code of Ordinances shall not be affected thereby. For this purpose, the provisions of this ordinance and the amendments to the Code of Ordinances are hereby declared respectively severable.

Section 4.00 Effective Date

The provisions of this ordinance amending Chapter 79, to include Section 79.3 Aquatic Invasive Species, Subsection 79.3.A Prohibition, Subsection 79.3.B Watercraft Inspections and amending Chapter 2 Definitions, of the TRPA Code of Ordinances shall be effective immediately after its adoption.

PASSED AND ADOPTED by the Governing Board of the Tahoe Regional Planning Agency at a regular meeting held May 28, 2008 by the following vote:

Ayes:

Nays:

Abstentions:

04/28/2008 Agenda Item VI.A.
Absent:

Mara Bresnick, Chairperson
Tahoe Regional Planning Agency
Proposed Amendments to Chapter 79, to include Section 79.3 Aquatic Invasive Species, Subsection 79.3.A Prohibition, and Subsection 79.3.B Watercraft Inspections and Chapter 2 Definitions.

The proposed language below are new ordinances that do not exist in the current Code therefore there is no double-underlined or struck-through language.

Chapter 79
FISH RESOURCES

79.3 Aquatic Invasive Species: Aquatic Invasive Species pose a serious threat to the waters of the Lake Tahoe Region. They can have a disastrous impact to the ecology, recreation and the economy. Aquatic Invasive Species shall include but not be limited to: zebra mussel (*Dreissena polymorpha*), quagga mussel (*Dreissena bugensis*), Eurasian water milfoil (*Myriophyllum spicatum* L.), curly leaf pond weed (*Potamogeton crispus* L.), and large mouth bass (*Micropterus salmoides*). The following provisions shall be adhered to in order to prevent the introduction and spread of aquatic Invasive Species.

79.3. A Prohibition: The transport or introduction of aquatic Invasive Species into the Lake Tahoe Region shall be prohibited. Further, it shall be prohibited to launch any watercraft into the waters of the Lake Tahoe Region that are contaminated with aquatic Invasive Species.

79.3. B Watercraft Inspections: All watercraft, motorized and non-motorized, shall be subject to an inspection prior to launching into the waters of the Lake Tahoe Region to detect the presence, and prevent the introduction, of aquatic Invasive Species. Inspections shall be conducted by the Tahoe Regional Planning Agency or its designee.

Chapter 2
Definitions

Invasive Species: The term refers to species, both aquatic and terrestrial, that establish and reproduce rapidly outside of their native range and may threaten the diversity or abundance of native species through competition for resources, predation, parasitism, hybridization with native populations, introduction of pathogens, or physical or chemical alteration of the invaded habitat. Through their impacts on natural ecosystems, agricultural and other developed lands, water delivery and flood protection systems, invasive species may also negatively affect human health and/or the economy.